"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIA, V. I.

Engineers F. Kovalev's method in a Moscow Province mine Moskva Moskovskii rabochii, 1952. 59 p. (55-29803)

TN808.R92M598

1. Coal mines and mining - Russia - Moscow Basin. 2. Kovalev, Fedor Lukich.

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PERIODICAL ABSTRACTS

AID 4193 - P

Sub.: USSR/Engineering

FRIDLYAND, L. A., T. A. AMFITEATROV and V. A. PETRUNICHEV
ZAKONOMERNOSTI PROTSESSA SVARKI PRI PLASTICHESKOM DEFORMIROVANII
(Regularities of the Welding Process in Plastic Deformations).
Avtomaticheskaya svarka, no. 1, Ja/F 1956: 38-46.

The authors present results of research in plastic deformations of welded surfaces and the characteristics of junctions as dependent on temperature of metals and methods of deformation. Spot welding and butt welding were used to ascertain regularities in the welding process. The mechanical characteristics of junctions depending on deformations and temperatures were derived from the butt welding of three different non-ferrous alloys. Recrystallization as a means of increased plasticity of junction was observed in welded junctions. The interdependability of temperature, plasticity and strength were observed under varying circumstances. Three tables, 7 graphs and 2 drawings. Two Russian references, 1953-54, and 1 British 1946.

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PETRUNICHEV, V.A.

5

V 10286. Laws Governing the Process of Welding Under Plastic Deformation. Zakonomernosti protsessa svarki pri plasticheskom deformirovanii. (Russian.) L. A. Fridland, T. A. Ainbinderova, and V. A. Petrunichev. *Avtomaticheskaia Svarka*, v. 9, no. 1, Jan.-Feb. [illegible], pp. [illegible]

Plastic deformations occurring in spot and butt pressure welding, mechanical properties of joints depending on temperature of the metal and on deformation. Graphs, diagrams, tables, 8 ref.

3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

FRIDLYAND, L.A.; AMFITRATROVA, T.A.; PETRUNICHEV, V.A.

Laws governing the welding process with plastic deformation.
Avtom.svar.9 no.1:38-46 Ja-F '56. (MLRA 9:6)

1.Institut metallurgii AN SSSR.
(Electric welding) (Deformations (Mechanics)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIN, V.D., fel'dsher

How we conduct home visits to pregnant women and newborn infants in villages. Fel'd. i akush. 21 no.11:34-37 N '56. (MLRA 9:12)

1. Ogorskiy meditsinskiy punkt Kaluzhskoy oblasti.
(PUBLIC HEALTH, RURAL)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNINA, Z.Ye.; SEVERGINA, L.[illegible].

Ordovician stratigraphy of the northwestern Gornyy Altai. Ma[illegible]
geol.Zap.Sib. no.63:81-93 '6[illegible]. (MIRA 16:1[illegible])

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNKIN, A. V.

Practical bio-chemistry. [illegible], Biology, [illegible].

Cyr.4 [illegible].

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIC, A.

PETRUNIC A

Yugoslavia (430)

Technology

Industrial production of carbon black and its development in Yugoslavia. p 158
NAFTA. Vol 3, no 6 June 1952.

East European Accessions List. Library of Congres . Vol 2, no 3, March 1953.
UNCLASSIFIED

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PETRUNIC, A.

4611 Industrial production of carbon black and its development in Yugoslavia

Rubber abs
V-31/nov1953
Compounding
Ingredients

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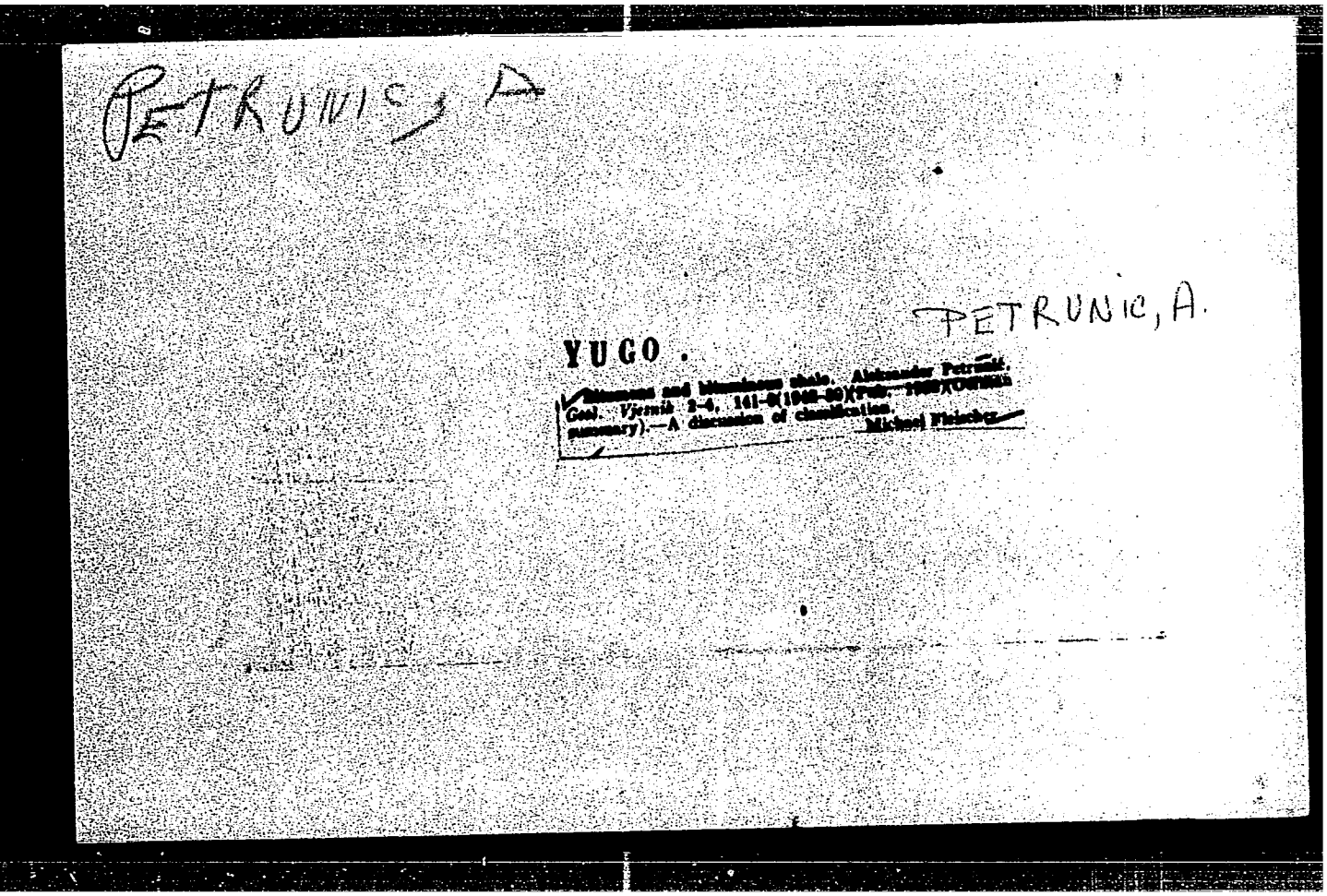

PETRUNIC, A.

YUGO.

Limestones and limestone shale. Aleksandar Petrunić. Geol. Vjesnik 2-4, 141-6(1948-50)(Croat.—1952)(Germ. summary).—A discussion of classification. Michael Fleischer

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNICH, A.

Fuel Abstracts
Vol. 14 No. 4
October 1953
Manufactured Solid
Fuels and Carbon
Products: Properties

3076. INDUSTRIAL PRODUCTION OF CARBON BLACK, AND IT[illegible] IN YUGOSLAVIA. Petrunić, A., (Hafta, Zagreb, 1953, vol. 3, 158-168). Processes for production of carbon black (lamp, channel, thermal, and furnace black) are reviewed. A description of the furnace process as developed in Kutina is given; heavy oil is burned in small furnace unit with a high throughput, to give good quality semi-reinforcing to high modulus furnace black. The effluent gas contains carbon dioxide 4, carbon monoxide 9.3, hydrogen 9.5, and methane 13%. B.A.

4/13/54

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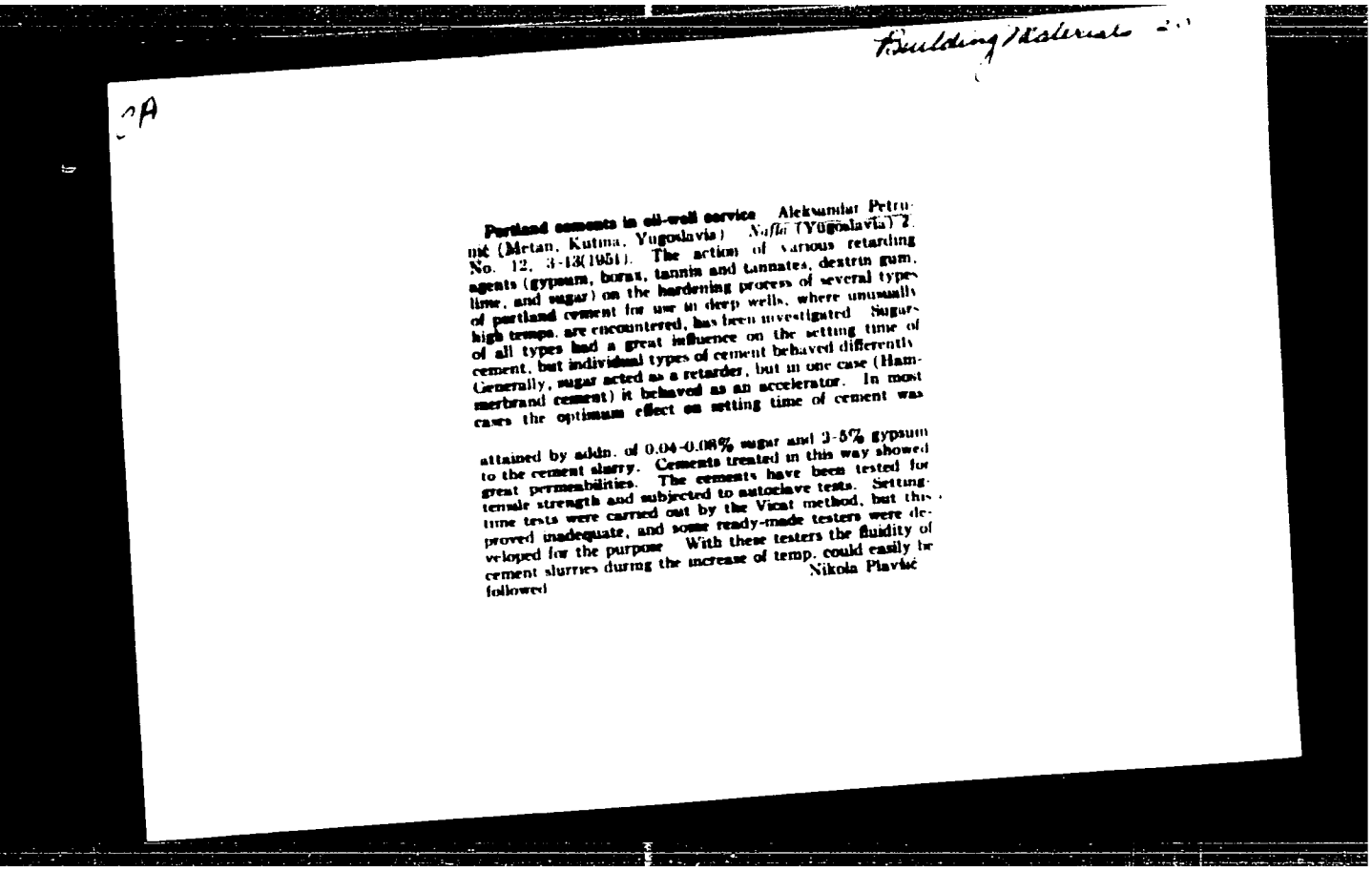

Building Materials

SA

Portland cements in oil-well service. Aleksandar Petrunić (Metan, Kutina, Yugoslavia). *Nafta* (Yugoslavia) 2, No. 12, 3-13(1951). The action of various retarding agents (gypsum, borax, tannin and tannates, dextrin gum, lime, and sugar) on the hardening process of several types of portland cement for use in deep wells, where unusually high temps. are encountered, has been investigated. Sugars of all types had a great influence on the setting time of cement, but individual types of cement behaved differently. Generally, sugar acted as a retarder, but in one case (Hammerbrand cement) it behaved as an accelerator. In most cases the optimum effect on setting time of cement was attained by addn. of 0.04-0.08% sugar and 3-5% gypsum to the cement slurry. Cements treated in this way showed great permeabilities. The cements have been tested for tensile strength and subjected to autoclave tests. Setting-time tests were carried out by the Vicat method, but this proved inadequate, and some ready-made testers were developed for the purpose. With these testers the fluidity of cement slurries during the increase of temp. could easily be followed. Nikola Plavšić

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

VESTEROV, I.V.; BARUSHKIN, Z.I.; PETRUNIN, A.D.

Clinical aspects and diagnosis of phytobeoars of the stomach. Vest. khir. Grekova, Leningr. 72 no.1:47-48 Jan-Feb 1952. (CLML 22:1)

1. Of Yalta Municipal Hospital (Head Physician -- T. P. Belonenko).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

NESTEROV, [illegible]

Stomach - Diseases

Clinical aspects and diagnosis of phytobezoars. Vest. khir. 72 no. 7 pp. 1, 1954.

9. Monthly List of Russian Accessions, Library of Congress, June 1958, Uncl.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

68-10-14/22

AUTHORS: Mamon, L.I.(Cand.Tech.Sc.), Potapov, A.G. and Petrunin, G.P.

TITLE: Packing of Rotating Shafts of Centrifugal Pumps for By-Product Departments of Coke Oven Works (Uplotneniye vrashchayushchikhsya valov tsentrobezhnykh nasosov khimicheskikh tsekhov koksokhimicheskikh zavodov)

PERIODICAL: Koks i Khimiya, 1957, Nr 10, pp.53-55 (USSR)

ABSTRACT: A new type of packing for shafts of centrifugal pumps operating in ammonia sulphate plants is proposed. The seal is obtained on working surfaces of rotating and stationary collars and not on the cylindrical surface of the shaft as in the usual design (Fig.2). There are 3 figures.

ASSOCIATION: Dnepropetrovsk Inter-Regional Party School. (Dnepropetrovskaya Mezhoblastnaya Partiynaya Shkola), Dnepropetrovsk Institute of Chemical Technology (Dnepropetrovskiy khimi[illegible]nologicheskiy institut)

AVAILABLE: Library of Congress.

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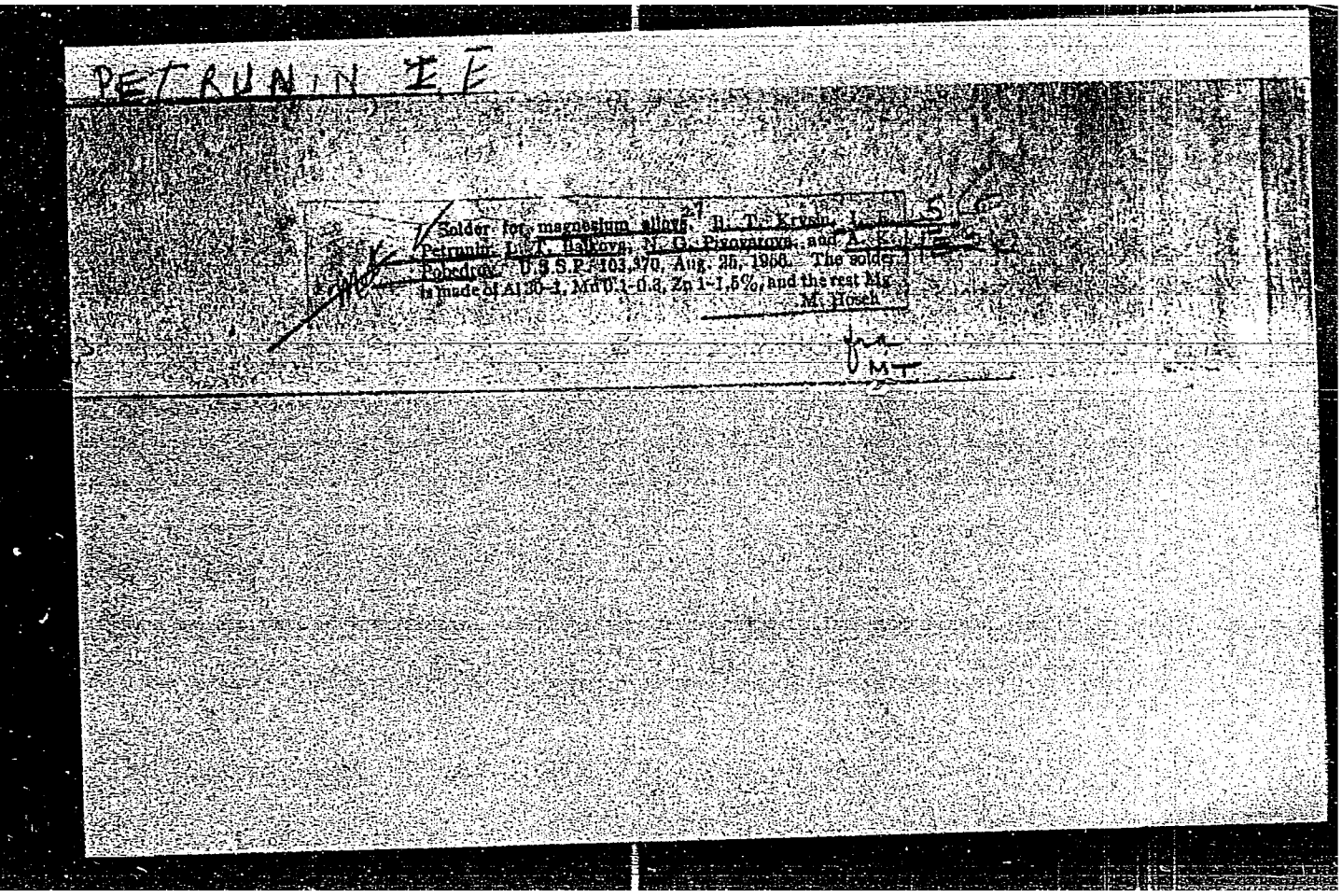

PETRUNIN, I. F.

Solder for magnesium alloys. B. T. Kryvin, I. F. Petrunin, Yu. T. Rakova, N. G. Pivovarova, and A. K. [illegible]. Poverdrom. U.S.S.R. 163,470, Aug. 25, 1960. The solder is made of Al 30-4, Mn 0.1-0.8, Zn 1-1.5%, and the rest Mg.
M. Hosch

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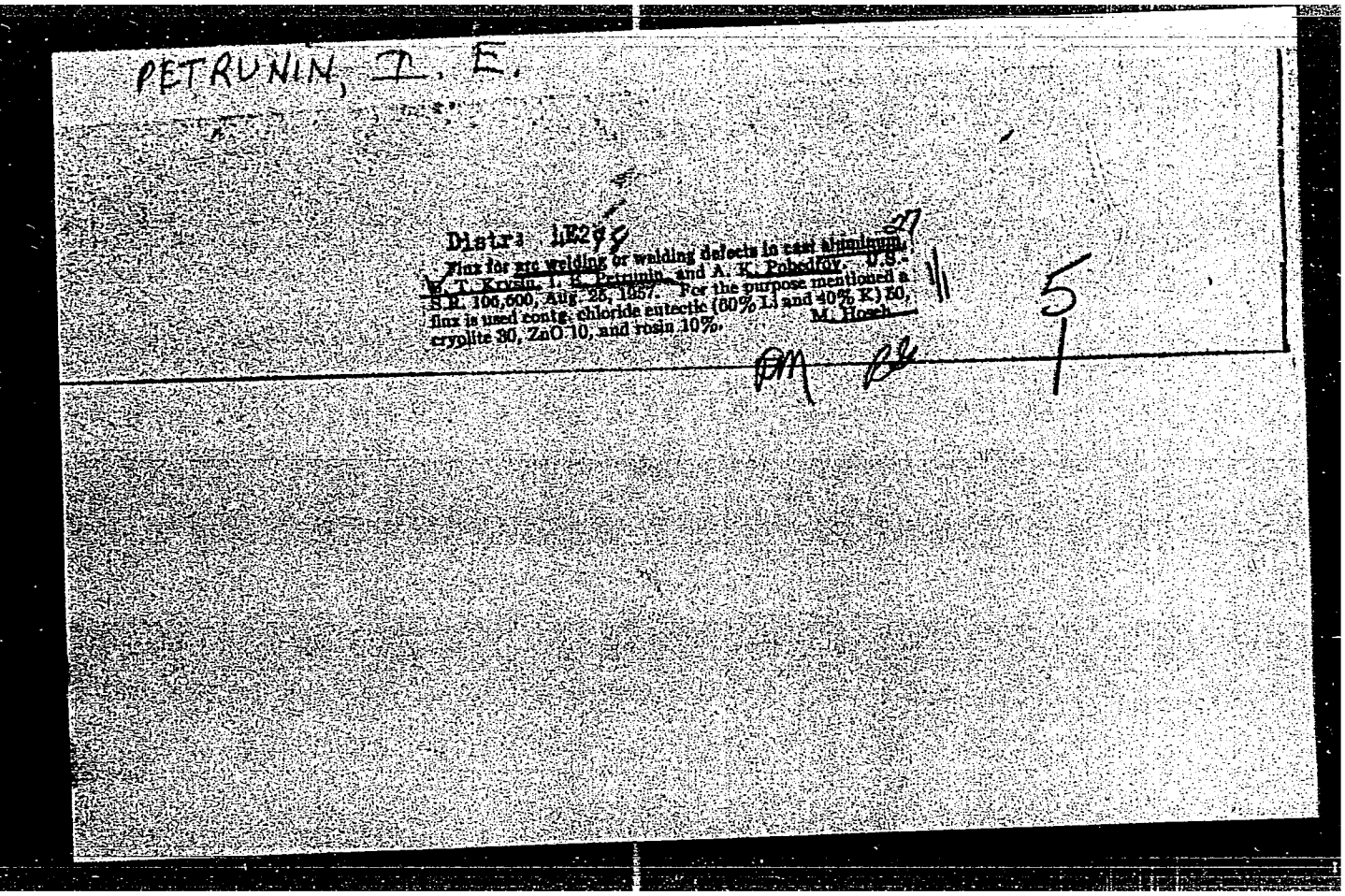

PETRUNIN, I. E.

Distr: 4E2g4

Flux for arc welding or welding defects in cast aluminum. V. T. Kovalu, I. E. Petrunin, and A. K. Pobedilov. U.S.S.R. 106,600, Aug. 25, 1957. For the purpose mentioned a flux is used contg. chloride eutectic (60% Li and 40% K) 50, cryolite 30, ZnO 10, and rosin 10%. M. Hosch

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIN, I. E.

27

Flux for magnesium alloy solder. B. T. Krysin, I. E. Petrunin, L. T. Baikova, N. G. Pivovarova, and A. K. Polsarov. U.S.S.R. 103,450, Aug. 25, 1956. The flux is compounded of carnalite base to which is added 8% cryolite and 3% ZnO based on the wt. of the base. Instead of cryolite, NaF can be used, and in place of ZnO, Al_2O_3 can be used in the same quantities. M. Hosch

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

SKORODUMOV, Georgiy Yevgen'yevich; SMIRNOV, Mikhail Petrovich; PETRUNIN, Ivan Ivanovich; POLYAKOV, Aleksandr Mikhaylovich; RYBAKOV, A.K., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Maintenance of narrow-gage railroad tracks; experience of workers on the Baltic line] Soderzhanie zheleznodorozhnogo puti uzkoi kolei; opyt puteitsev Baltiiskoi dorogi. Moskva, Gos.transp.zhel-dor. izd-vo, 1955. 109 p. (MLRA 9:3)
(Railroads, Narrow--Gauge)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIN, I. Ye.

PETRUNIN, I. Ye. --"Investigation of the Possibility of Soldering Magnesium Alloys." Min Higher Education USSR. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences).

So.: Knizhnaya Litopis', No. 7, 1956.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIN, V.D., fel'dsher (Ogor' Kaluzhskoy oblasti)

Improving the qualifications of nonprofessional medical workers. Fel'd. i akush. no.10:36-37 O '55. (MLRA 8:12)
(MEDICAL SERVICE EMPLOYEES)

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PETRUNIN, V.D., fel'dsher (selo Ogor' Kaluzhskoy oblasti)

How I prepare for may health education work. Fel'd. i akush. 21 no.12 38-39 D '56. (MLRA 10:1)
(HEALTH EDUCATION)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIN, V.D., fel'dsher.

Our achievements in diphtheria control. V.D. Petrunin. Fel'd. i akush. no.11:50-51 N '55. (MLRA 9:2)

1. Ogorskiy meditsinskiy punkt Kaluzhskoy oblasti.
(DIPHTHERIA--PREVENTIVE INOCULATION)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIN, V.D., feldsher (Selo Ogor' Kaluzhskoy oblasti)

Training of members of the organization Ready for Sanitary Protection. Fel'd. i akush. no.1:52-54 Ja '55. (MLRA 8:3)

(RURAL CONDITIONS,
med. care in Russia)
(PUBLIC HEALTH,
in Russia, rural)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNIN, V.D., fel'dsher.

Treatment and prevention of common colts at rural fel'dsher-midwife stations. Fel'd. i akush. no.6:52-54 Je '55. (MLRA 8:8)

1. Ogorskiy meditsinskiy punkt, Kaluzhskaya oblast'.
(COMMON COLD, prev. and control
in rural dispensaries in Russia)
(RURAL CONDITIONS
pub.serv. in prev. of common colds in Russia)
(OUTPATIENT SERVICE
in prev. of common colds in rural dispensaries in Russia)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

ACCESSION NR: AP4038422 S/0166/64/000/002/0059/0063

AUTHOR: Khrushchev, B. I.; Trombachev, Yu. T.; Petrunin, V. F.

TITLE: Semiconductor surface barrier counters

SOURCE: AN UzSSR. Izv. Seriya fiziko-matematicheskikh nauk, no. 2, 1964, 59-63

TOPIC TAGS: transistorized counter, surface barrier counter, silicon plate, nickel plating, thermal neutron, magnetic field, gamma radiation background

ABSTRACT: The authors developed a method for production of semiconductor counters. In order to preserve the life span of the minority charge carriers and their mobility, the counters were prepared of n-type silicon with a specific resistance of 300 ohm/cm, 0.4-1 mm thick of a square or rectangular shape and an area from $1mm^2$ to $1\ cm^2$. The completed counters were tested on an α-source with a 5.6 MeV energy of α-particles. The tests were conducted in magnetic fields with magnitudes up to 12,000 erg. The authors concluded that silicon surface-barrier counters containing boron-10 may be used for counting thermal neutrons even in the presence of strong magnetic fields. The counters must, however, be protected against effects of light sources, because of their extreme sensitivity toward a γ-background. Orig. art. has: 5 figures and 1 equation.

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

ACCESSION NR: AP4038422

ASSOCIATION: Institut yadernoy fiziki AN UzSSR (Institute of Nuclear Physics AN UzSSR)

SUBMITTED: 26Aug63 DATE ACQ: 26Jun64 ENCL: 00

SUB CODE: NP NO REF SOV: 008 OTHER: 002

Card 2/2

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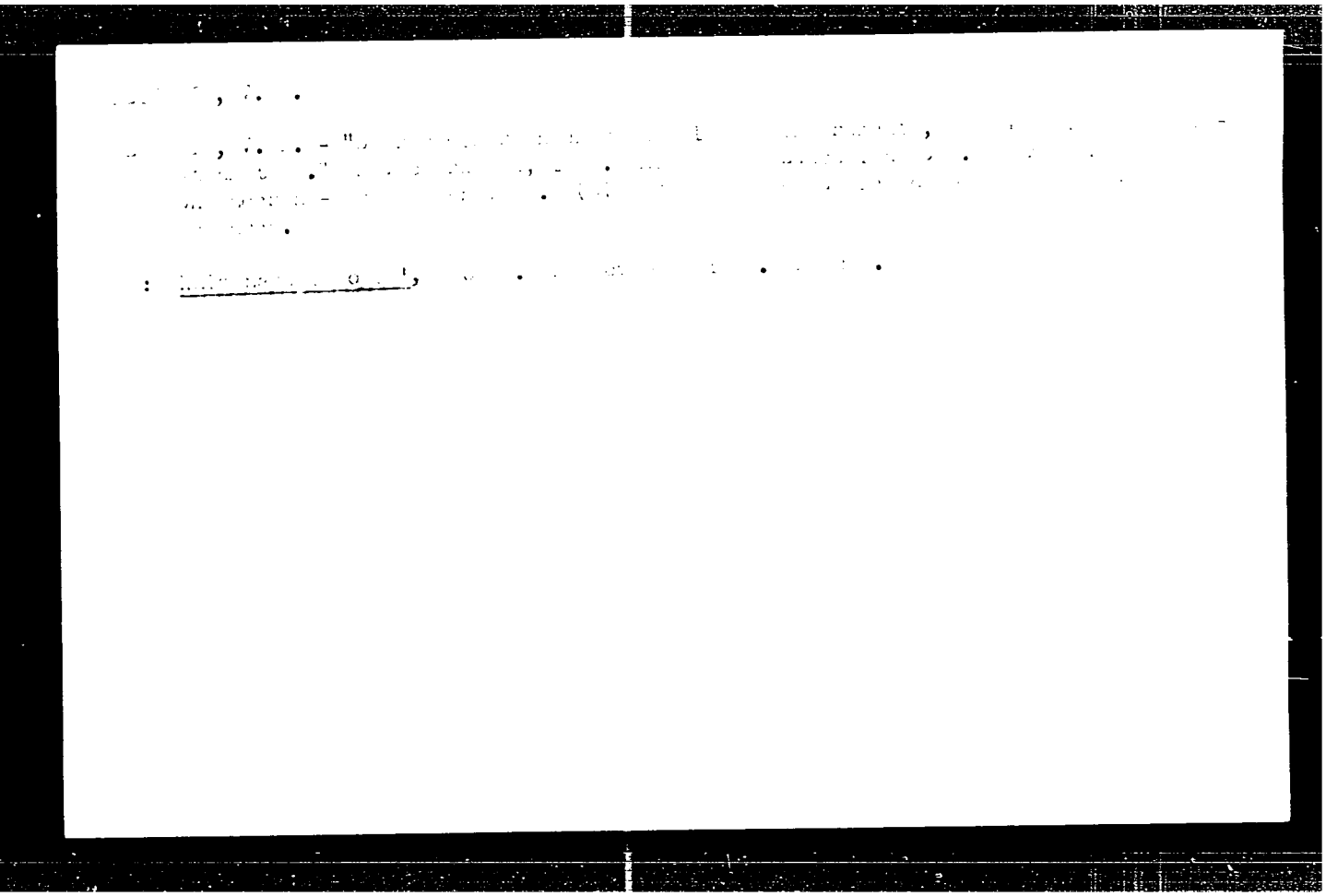

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YEVSEYEV, Ye.S. [translator]; SELIVERSTOV, Yu.S. [translator]; SULTANOV, A.F., obshchiy red.; PETRUNIN, Ye.N., red.; ARTEMOVA, Ye., tekhn.red.

[The Suez Canal (facts and documents); collection of articles] Suetskii kanal (fakty i dokumenty); sbornik statei. Pod obshchei red. A.F.Sultanova. Vstup.stat'ia M.F.Gataullina i G.S.Nikitinoi. Moskva, Izd-vo inostr.lit-ry, 1959. 243 p. Translated from the Arabic. (MIRA 13:3)

(Suez Kanal)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNINA, M.M.

Effect of the build of footwear bottoms on the wear of soles. (MIRA 10:10)
Leg.prom. 17 no.8:27-29 Ag '57.
(Shoe industry)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

MALYUGA, D.P.; PETRUNINA, N.S.

Biogeochemical investigations in the Tuva Autonomous Province.
Geokhimiia no. 3:258-267 '61. (MIRA 14:4)

1. V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Tuva Autonomous Province—Ore deposits)
(Indicator plants) (Geochemical prospecting)

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CA

7

Rapid photoelectric determination of small amounts of vanadium in iron ore N. S. Tkachenko and R. M. Petrunina. *Zavod. Lab.* 10 [5] 557-9(1941). Dissolve 0.2 g sample with 1.5 g Na_2O_2 in Fe crucible, extract with H_2O, add 10 ml. 18 N H_2SO_4, 1.5 ml. of 0.5 N HCl, and heat. When the soln. is clear, add 1 ml. 7 N HNO_3, heat to evap. to 0.5 ml., cool, add 5 ml. H_3PO_4 (d. 1.7), 10 ml. 5% Na_2WO_4 soln., heat to 92.5°, cool, add 1 ml. of fresh 0.1% $SnCl_2$, dil. to 50 ml., and examine in a colorimeter with yellow green filter against a standard color soln.

C. M. Kosolapoff

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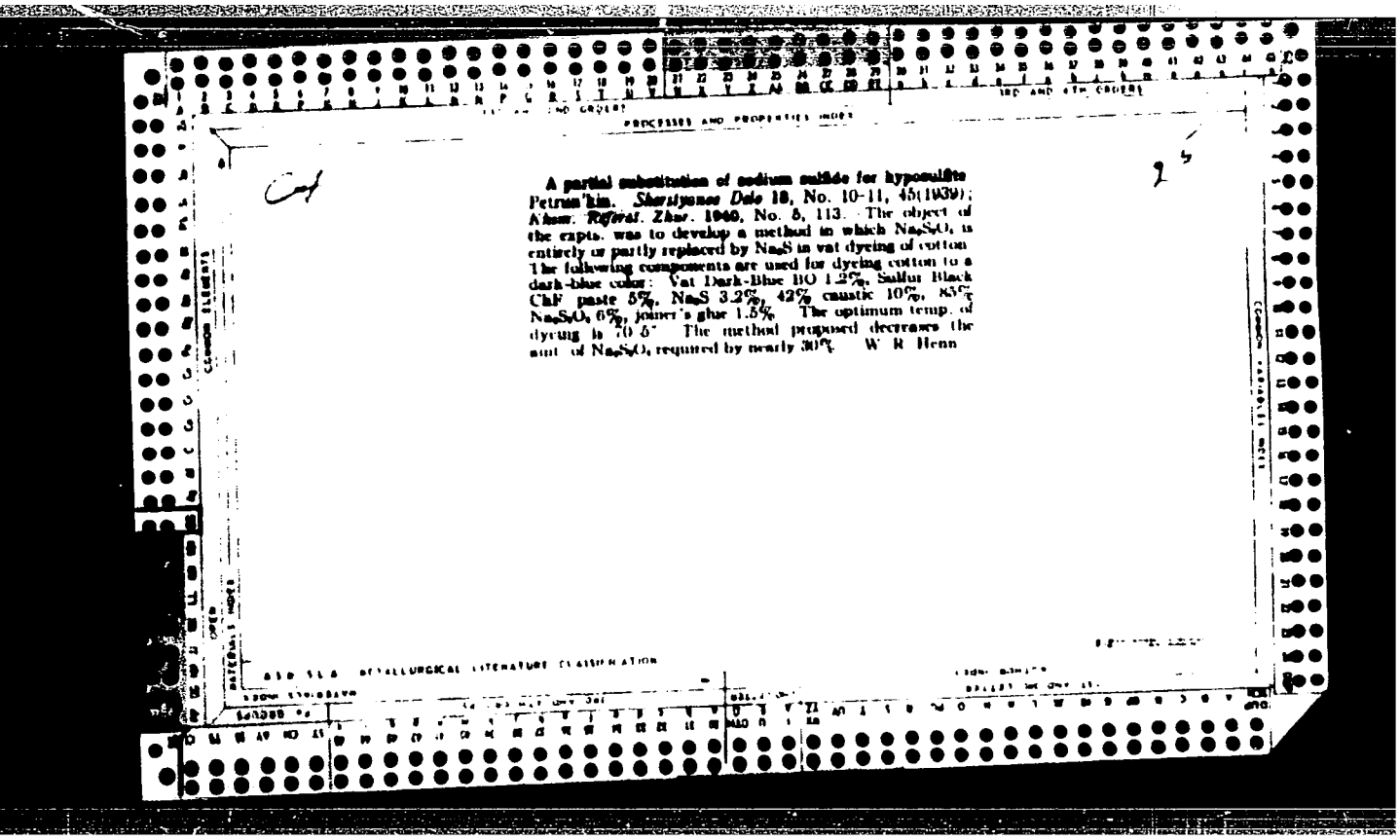

A partial substitution of sodium sulfide for hyposulfite Petrun'kin. *Shersti'yanoe Delo* **10**, No. 10-11, 45(1939); *Khim. Referat. Zhur.* 1940, No. 5, 113. The object of the expts. was to develop a method in which $Na_2S_2O_3$ is entirely or partly replaced by Na_2S in vat dyeing of cotton. The following components are used for dyeing cotton to a dark-blue color: Vat Dark-Blue BO 1.2%, Sulfur Black ChF paste 5%, Na_2S 3.2%, 42% caustic 10%, 85% $Na_2S_2O_3$ 6%, joiner's glue 1.5%. The optimum temp. of dyeing is 70.5°. The method proposed decreases the amt. of $Na_2S_2O_3$ required by nearly 30%. W. R. Henn

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PETRUNKIN, A M

1 H

The effect of administration of alkali and acid upon the reaction of rabbits to morphine. A M AND M I PETRUNKIN. *Arkh biol Nauk* 30, 561-75(in French 575-6) (1930). Acid (0.7 cc 0.3% HCl) when introduced intravenously *before* the administration of morphine weakens or abolishes the effect of the latter. Alkali (3.4 cc 2.5% Na_2CO_3) administered intravenously and followed immediately by morphine injected into the same vein frequently abolishes the morphine effect completely. If time is permitted to elapse between the alkali and morphine administration, or if the alkali is given by stomach tube, the morphine effect is increased, as it is if the alkali is given after the morphine effect has become manifest. These results are correlated with the previous work of the authors on the mechanism of the reaction of alkaloids with nerve tissue. C. A. 1 23, 610.

W. A. PERLZWEIG

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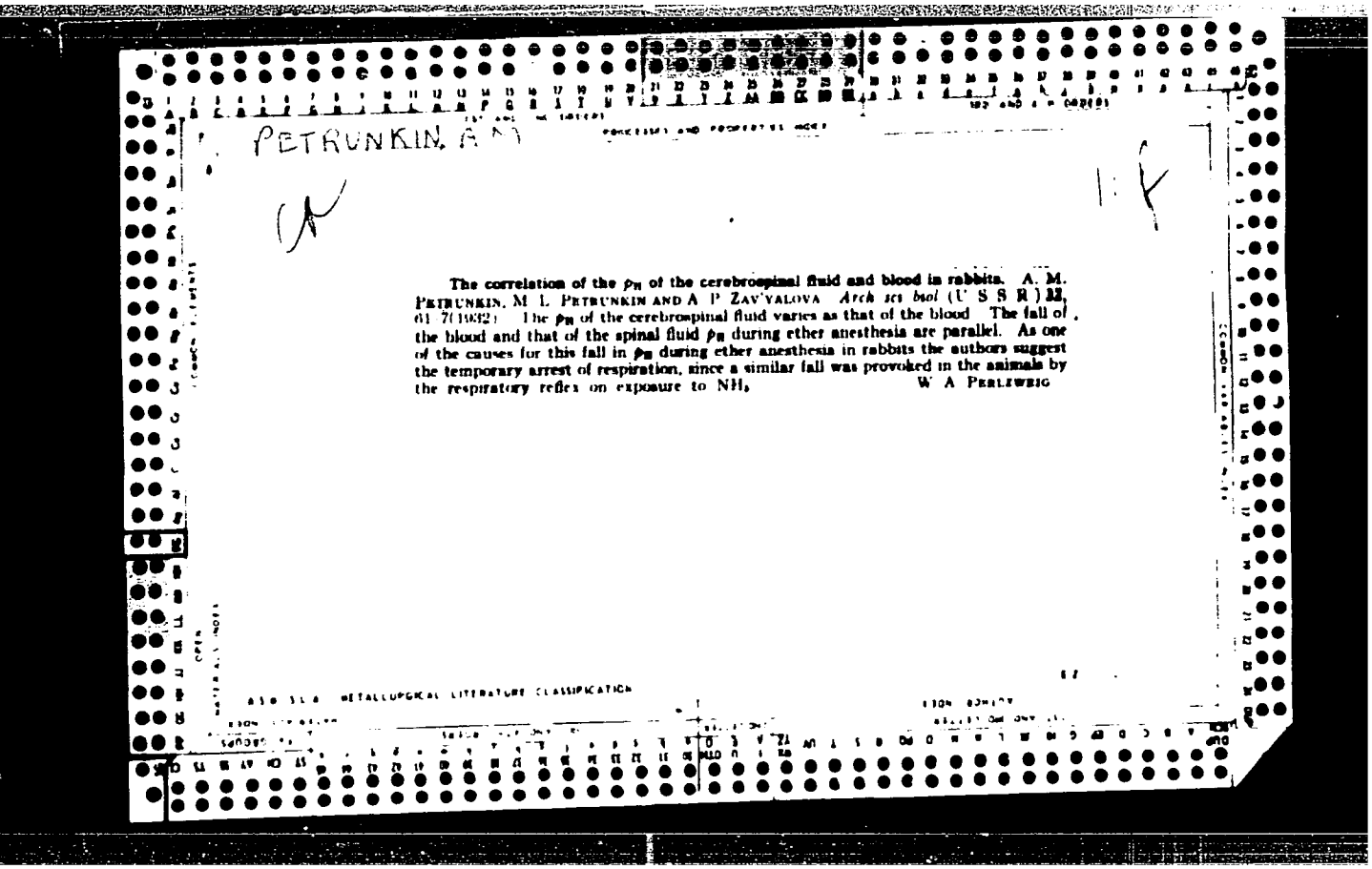

PETRUNKIN, A M

The correlation of the p_H of the cerebrospinal fluid and blood in rabbits. A. M. PETRUNKIN, M. L. PETRUNKIN AND A. P. ZAV'YALOVA *Arch sci biol* (U. S. S. R.) 33, 61-7 (1932). The p_H of the cerebrospinal fluid varies as that of the blood. The fall of the blood and that of the spinal fluid p_H during ether anesthesia are parallel. As one of the causes for this fall in p_H during ether anesthesia in rabbits the authors suggest the temporary arrest of respiration, since a similar fall was provoked in the animals by the respiratory reflex on exposure to NH_3. W. A. PERLEWEIG

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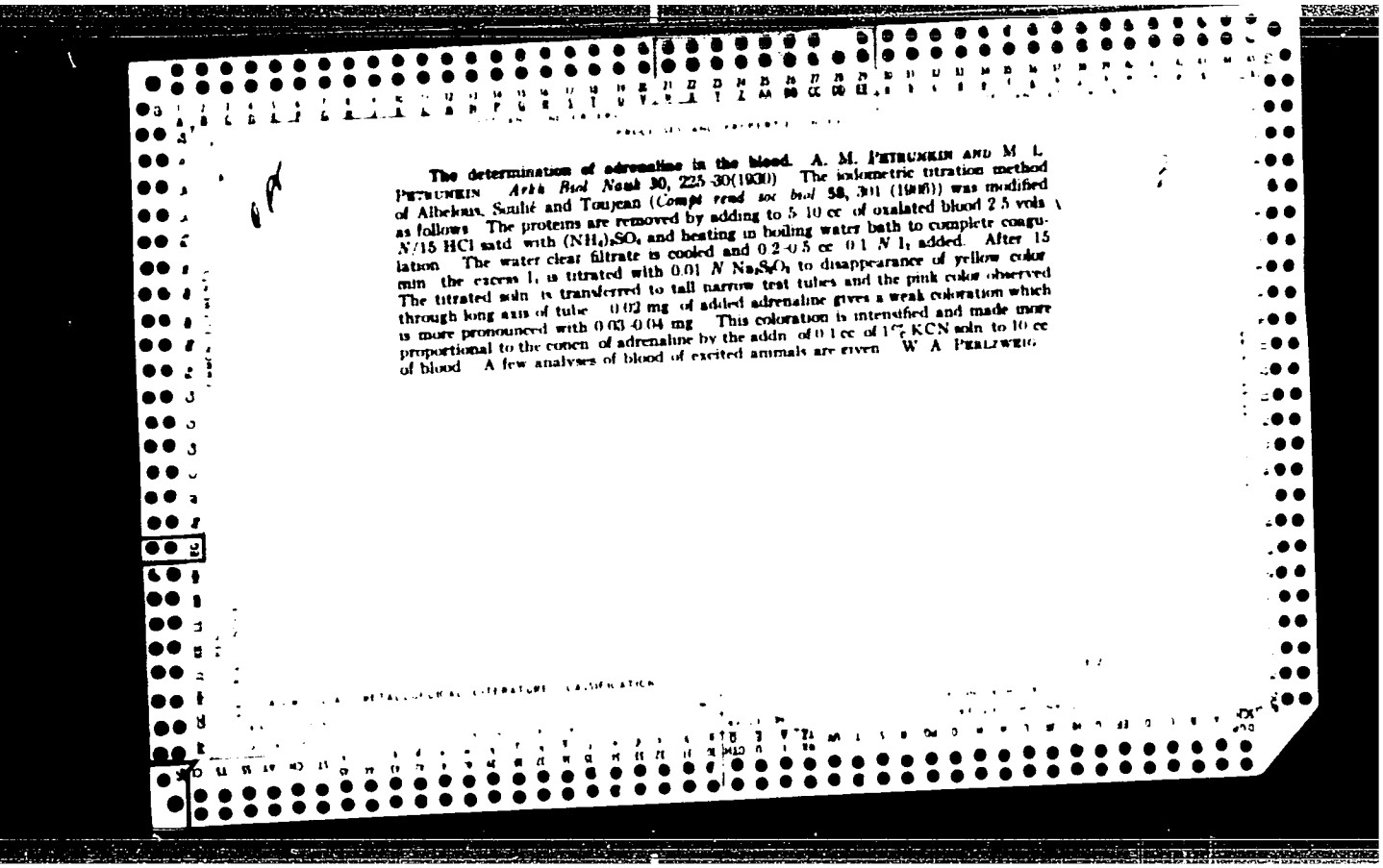

The determination of adrenaline in the blood. A. M. PETRUNKIN AND M. L. PETRUNKIN *Arch. Biol. Nauk* **30**, 225-30(1930). The iodometric titration method of Albeleau, Saulié and Toujean (*Compt. rend. soc. biol.* **58**, 301 (1905)) was modified as follows. The proteins are removed by adding to 5-10 cc. of oxalated blood 2.5 vols. *N*/15 HCl satd. with $(NH_4)_2SO_4$ and heating in boiling water bath to complete coagulation. The water clear filtrate is cooled and 0.2-0.5 cc. 0.1 *N* I_2 added. After 15 min. the excess I_2 is titrated with 0.01 *N* $Na_2S_2O_3$ to disappearance of yellow color. The titrated soln. is transferred to tall narrow test tubes and the pink color observed through long axis of tube. 0.02 mg. of added adrenaline gives a weak coloration which is more pronounced with 0.03-0.04 mg. This coloration is intensified and made more proportional to the concn. of adrenaline by the addn. of 0.1 cc. of 1% KCN soln. to 10 cc. of blood. A few analyses of blood of excited animals are given. W. A. PERLZWEIG.

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S/051/63/014/004/002/026
E039/E420

AUTHORS: Ochkur, V.I., Petrun'kin, A.M.

TITLE: The classical calculation of the probability of excitation and ionization of atoms by electron collisions

PERIODICAL: Optika i spektroskopiya, v.14, no.4, 1963, 457-464

TEXT: Expressions for ionization and total excitation cross-sections are obtained on the basis of classical mechanics in the two body approximation. In all the examples examined the results agree with experimental data to within an order of magnitude. When the energy of collision exceeds the threshold value the difference between the calculated and experimental values is not more than a factor of 2 or 3 and even less in the case of ionization. In the threshold region the calculated values are too high and the position of the maximum is always displaced to the low energy side. The calculation also shows a faster fall of cross-section with increasing energy than is indicated by experiment. At large energies the calculated cross-sections are less than the experimental. These deficiencies can be largely eliminated by

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E039/E420

The classical calculation ...

the use of a semi-empirical formula and the best is that due to H.W.Darwin (Zs. Phys., v.164, no.5, 1961, 513)

$$\sigma_{III} = 0.66 \cdot \sigma_I \xi_1 \ln(1.25 \xi_2 \frac{E}{U_j}) \qquad (9)$$

σ_I is calculated from

$$\sigma_I = N \frac{\pi e^4}{E} \left(\frac{1}{U_j} - \frac{1}{E} \right) \qquad (2)$$

where U_j is the ionization energy, E - electron energy, e - the charge on the electron and N - the number of electrons in the shell. ξ_1 and ξ_2 are free parameters taken as unity.
There are 2 figures.

SUBMITTED: July 2, 1962

Card 2/2

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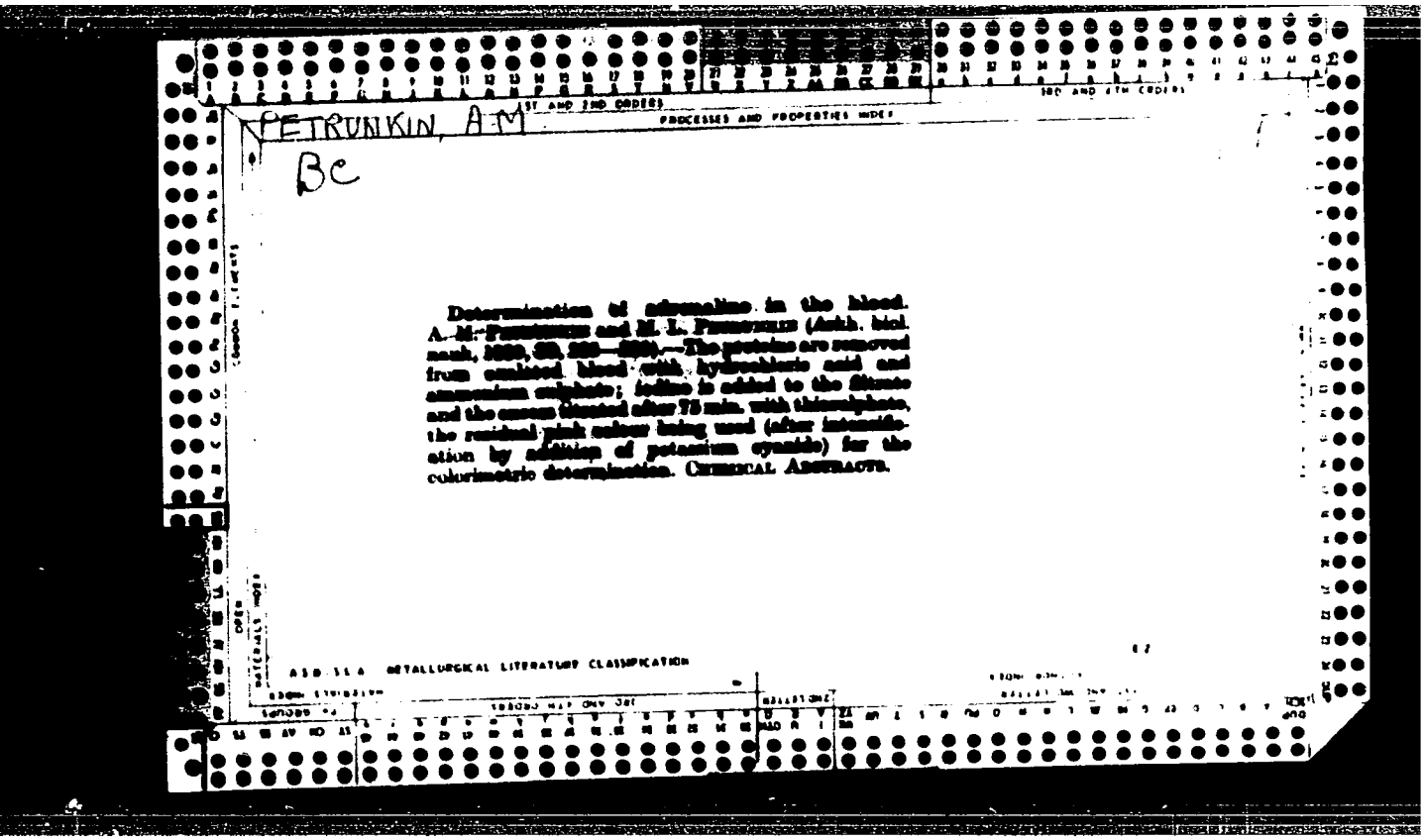

PETRUNKIN, A M

Bc

Determination of adrenaline in the blood. A. M. Petrunkin and M. L. Pinsenzon (Ambk. biol. zashch., 1939, 6, 225—230).—The proteins are removed from oxalated blood with hydrochloric acid and ammonium sulphate; iodine is added to the filtrate and the excess titrated after 75 min. with thiosulphate, the residual pink colour being used (after intensification by addition of potassium cyanide) for the colorimetric determination. CHEMICAL ABSTRACTS.

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

BATYGIN, Vladimir Vladimirovich; TOPTYGIN, Igor' Nikolayevich; PETRUN'KIN, A.M., red.; KAL', M.M., red.; LUK'YANOV, A.A., tekhn. red.

[Collected problems on electrodynamics] Sbornik zadach po elektrodinamike. Pod red. M.M.Bredova. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1962. 480 p. (MIRA 15:6)
(Electrodynamics)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

Petrun'kin, A.M.

120-6-5/36

AUTHORS: Zolotavin, A.V., Petrun'kin, A.M., and Khalkopova, N.N.

TITLE: On the Use of High Sources in Beta-spectrometers with Double Focussing (Ob ispol'zovanii vysokikh istochnikov v β-spektrometrakh s dvoynoy fokusirovkoy)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6, pp. 27 - 30 (USSR)

ABSTRACT: An increase in the size of the source in magnetic beta-spectrometers with double focussing leads to an increase in the "illumination" L, defined as the product of the mean solid angle Ω used in the spectrometer and the area of the source S. The above result was studied by the authors in Ref.3 in the case of a field giving accurate focussing of a "flat" beam. In the case of line source such a field gives first order focussing in the following directions: in the plane of symmetry and in the direction of the axis of symmetry of the beam. In order to find the upper limit to the size of the source, the shape of defining slits, and the shape of the receiving slit, it is necessary to find the image of the linear source. Such calculations were carried out in Ref.1, using a maximum source half-height of $z_0 = 0.15\,\rho_0$ where ρ_0 is the radius of the

Card1/3 equilibrium orbit. Further calculations are reported in the

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

120-6-5/36

On the Use of High Sources in Beta-spectrometers with Double Focussing.

magnetic fields giving accurate focussing of a wide beam lying in the plane of symmetry, it is possible to use sources 0.3 ρ_0 high and thus increase the "illumination" considerably.
B.S. Dzhelepev collaborated.
There are 1 diagram, 2 tables and 13 references, 5 of which are Slavic.

ASSOCIATION: Leningrad State University imeni A.A. Zhdanov. (Leningradskiy Gosudarstvennyy im. A.A. Zhdanova)

SUBMITTED: May 13, 1957.

AVAILABLE: Library of Congress

Card 3/3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

SOV/ [illegible]

AUTHORS: Bykhovskiy, I.I., Liznov, Ya.F., and Petrik'kin, L.P.

TITLE: A Planetary Vibrator With Runner (Vibrator planetarnogo tipa s begunkom)

PERIODICAL: Byulleten' izobreteniy, 195[illegible], Nr [illegible], p. 44. USSR.

ABSTRACT: Class 80a, 49. Nr [illegible] (575444.24[illegible] of 17 Sep [illegible]. Submitted to the Ministry of Construction and Road Machinebuilding of the USSR. Dependent on Author's Certificate Nr 95229. A planetary vibrator with a runner rolling on a runway as described in Author's Certificate Nr 95229 for thickening concrete and other materials. To produce a shock effect in addition to a vibrational effect either the runner can be made polyhedral and the runway smooth or the runway polyhedral and the runner smooth.

Card 1/1

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PA 22/49T33

PETRUN'KIN, L. P:

Oct 48

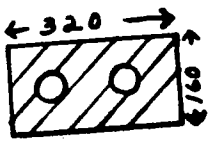
USSR/Engineering
Beams, Concrete
Concrete, Reinforced

"New Method for the Manufacture of Ferroconcrete Beams," L. P. Petrun'kin, Engr, 3 3/4 pp

"Mekh Stroi" No 10

Describes production of special-type reinforced-concrete beam, with six photographs, and three diagrams.

Length: 6-8 meters
Cross section:



22/49T33

[redacted]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

BERNADSKIY,G.I.; SUDAKOVICH,D.I.; GRINTSER,S.A., inzhener, redaktor; KUZNITSYN,G.I., inzhener, retsenzent; PETRUN'KIN,L.P., laureat Stalinskoy premii, inzhener, retsenzent; POL'SKAYA,N.G., tekhnicheskiy redaktor

[Pneumatic hand-operated instrument] Pnevmaticheskii ruchnoi instrument. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1952. (MLRA 9:3)

(Pneumatic tools) [MICROFILM]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

TSAPLIN, S.A.; PETRUN'KIN, L.P., redaktor; KOVALIKHINA, N.F.; tekhnicheskiy redaktor

[Vibrator impact mechanisms for the construction of roads and bridges] Vibroudarnye mekhanizmy dlia dorozhno-mostovogo stroitel'stva. Moskva, Avtotransizdat, 1953. 149 p. (MLRA 7:8)
(Road machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

SUDAKOVICH, D.I.; BERNADSKIY, G.I.; PETRUN'KIN, L.P., inzhener, laureat St. linskoy premii, retsenzent; SHESTINSKIY, N.N., inzhener, redaktor.

[Manual on mechanized hand tools] Spravochnik po mekhanizirovannomu ruchnomu instrumentu. Leningrad, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry [Leningradskoe otd-nie] 1954. 335 p. (MLRA 7:6)
(Tools)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUN'KIN, L. P.
USSR/Engineering—Weighing Hopper

Card 1/1

Authors : Bauman, V. A., Cand. in Tech. Sciences, Laureate of the Stalin prize, Petrun'kin, L. P., Engineer, and Ageikin, D. I., and Ogiyevich, V. A., Candidates in Tech. Sciences

Title : An automatic weighing hopper with continuous action

Periodical : Mekh. Stroi. 11/2, 13-15, February 1954

Abstract : Concrete mixers providing a continuous flow up to the present have not received wide application. The difficulty is with the proportioning hopper. To remedy this, the All-Union Scientific Research Institute of Building and Road-Machine Construction together with the Institute of Automatic Science and Telemechanics, has developed an automatic weighing hopper of continuous operation. The device insures a constant flow of the proper proportions of cement, sand and gravel or crushed stone. The author describes this hopper in detail and illustrates his explanations with tables and drawings.

Institution : .....

Submitted : .....

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUN'KIN, L.P.

MIKLASHEVSKIY, Ye.P., kandidat tekhnicheskikh nauk, laureat Stalinskoy premii.

Fundamental theory of depth vibrators for packing concrete mixtures. L.P.Petrun'kin. Reviewed by M.P. Miklashevskii. Mekh.stroi. 11 no.8:30-31 Ag '54. (MLRA 7:8)
(Concrete construction)

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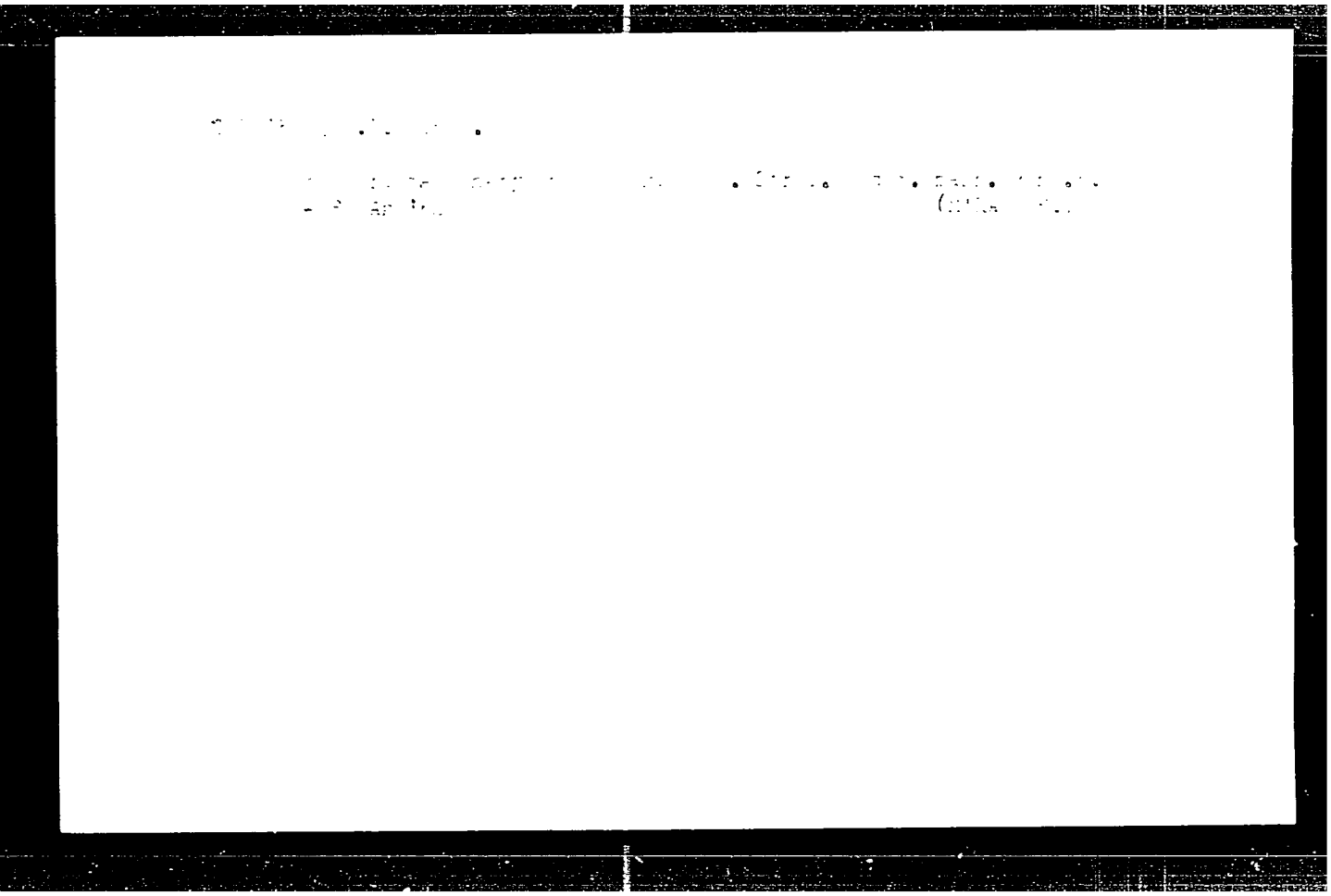

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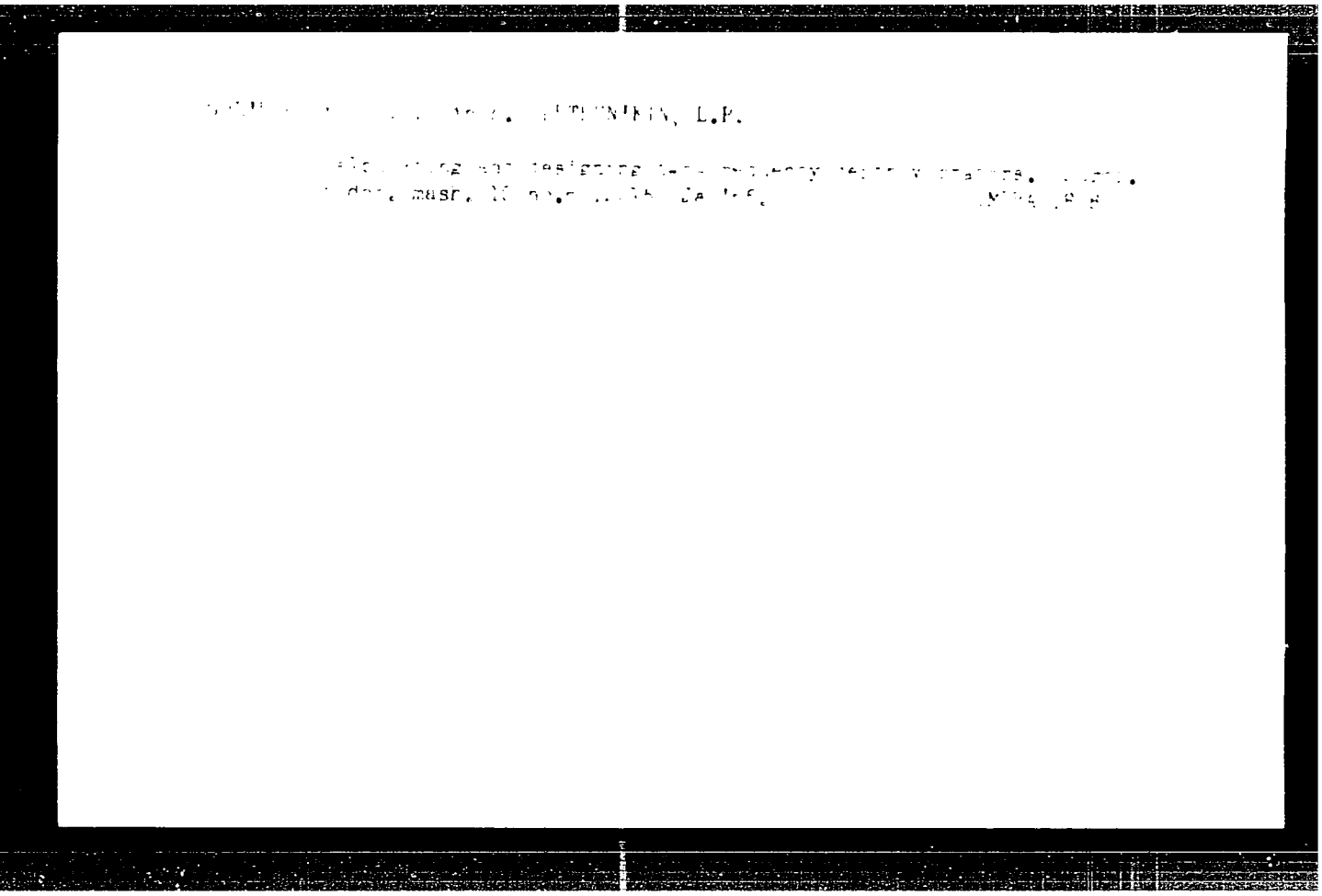

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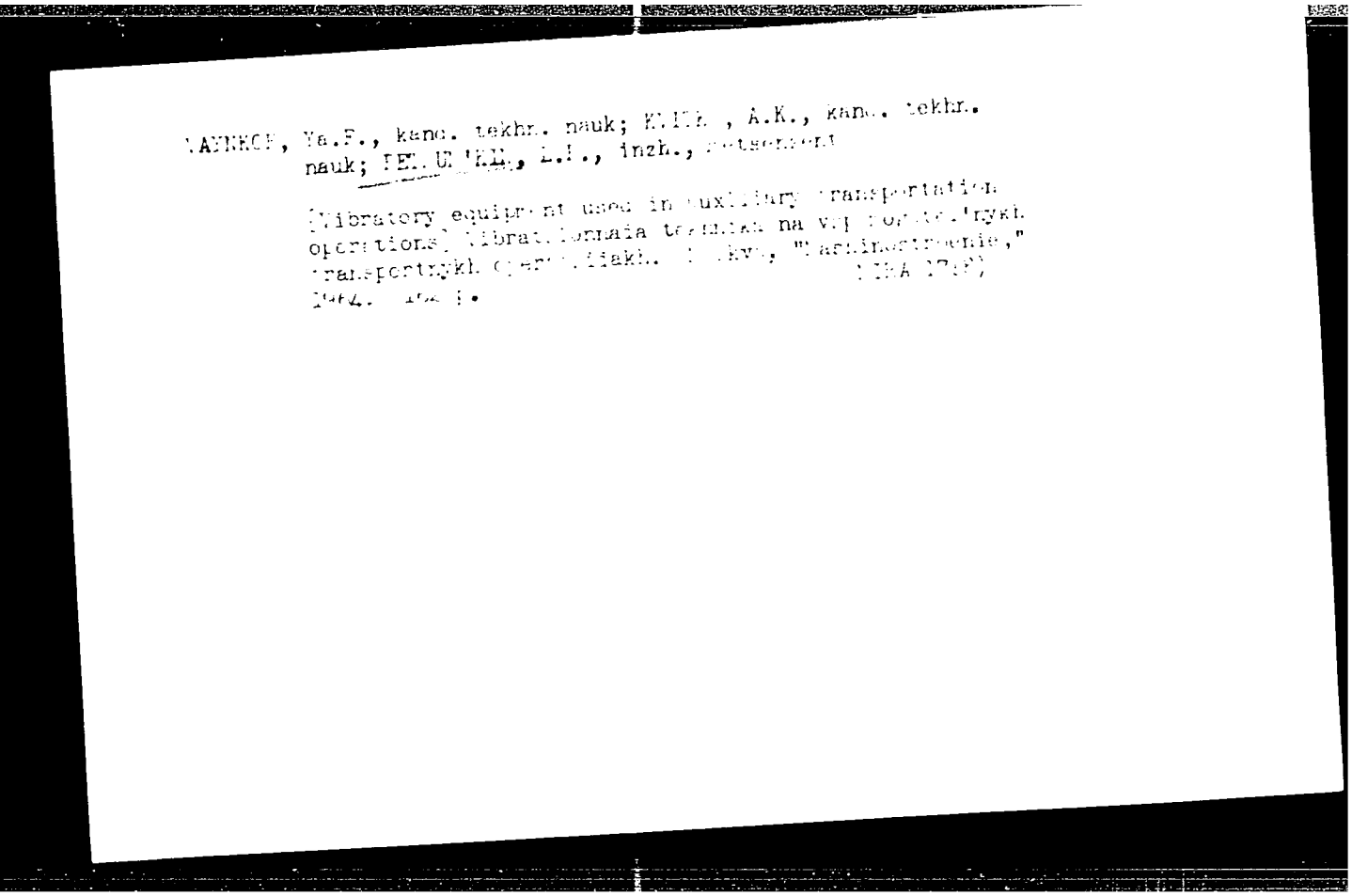

[illegible], Ya.F., kand. tekhn. nauk; [illegible], A.K., kand. tekhn. nauk; [illegible], L.I., inzh., [illegible]

[Vibratory equipment used in auxiliary transportation operations] Vibratsionnaia tekhnika na vspomogatel'nykh transportnykh operatsiiakh. [illegible], "Mashinostroenie," 1964. [illegible] p.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

GONCHAREVICH, Igor' Fomich; SERGEYEV, Petr Aleksandrovich; PETRUN'KIN, L.P., inzh., retsenzent; KOLDOMASOV, Ye.I., red.; BYSTRITSKAYA, V.V., red. izd-va; UVAROVA, A.F., tekhn. red.

[Vibratory machines in construction] Vibratsionnye mashiny v stroitel'stve; osnovy teorii, proektirovaniia i rascheta. Moskva, Mashgiz, 1963. 310 p. (MIRA 16:5)
(Vibrators)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

NOVOSEL'SKIY, P.I.; PETRUN'KIN, I.P.

Investigating and establishing basic parameters for vibration tables designed by the All-Union Scientific Research Institute of Building and Road Construction Machinery. Stroi. i dor. mashinostr. 2 no.6:21-28 Je '57. (MLRA 10:6)
(Vibrators)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUN'KIN, M. L.

Petrun'kin, M. L. and Strogarov, V. V. "Accumulation of bromine in an organism with protracted treatment with bromine and its effect on the superior activity of a dog of excitable type," (with supplement: "Methods of determining bromine in urine", Trudy fiziol. laboratorii im. Pavlova, Vol XIV, 1948, pp 48-95

SO: U-3264, 10 April 1953, Letopis 'Zhurnal 'nykh Statey, No. 3, 1949.

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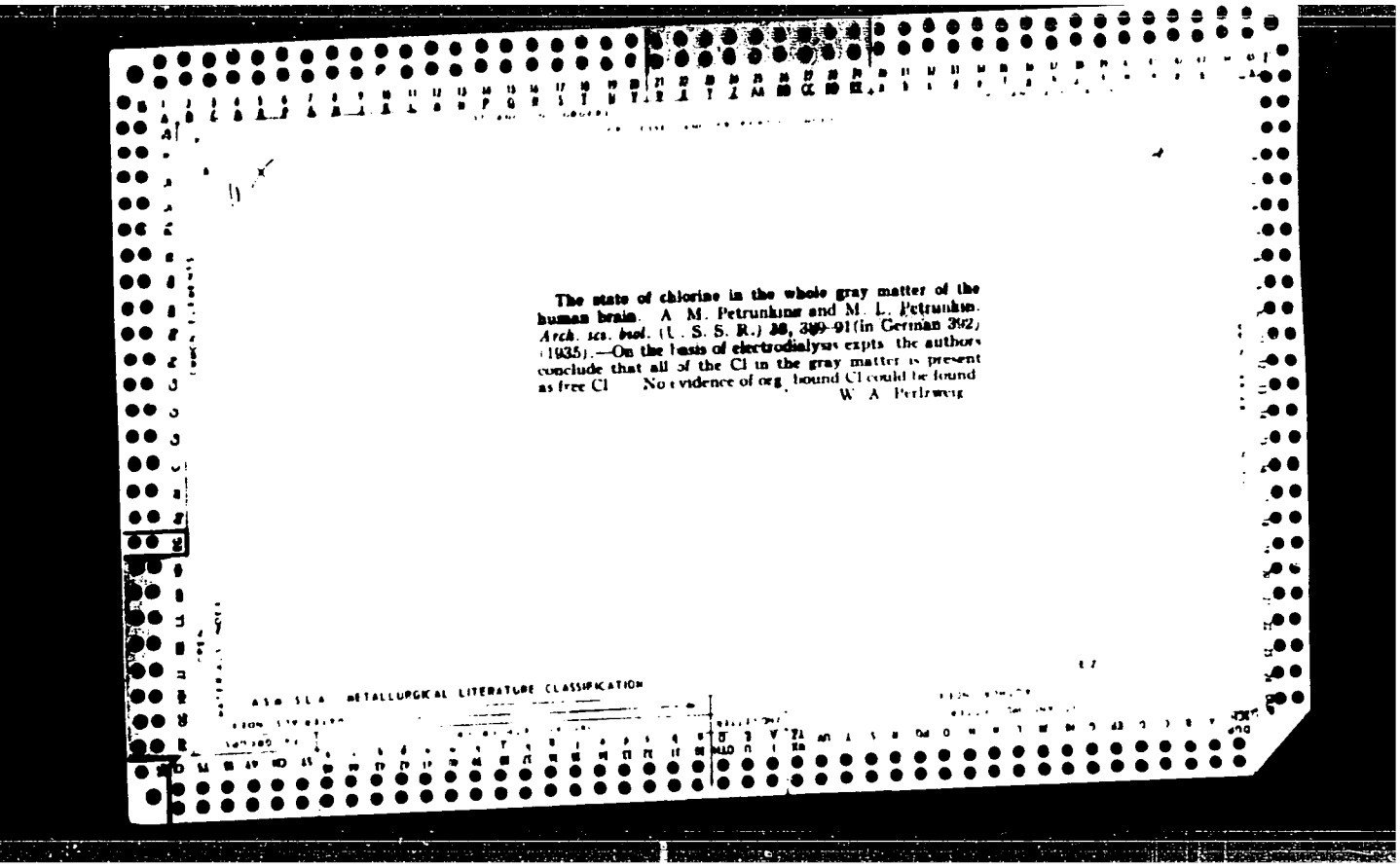

The state of chlorine in the whole gray matter of the human brain. A. M. Petrunkin and M. L. Petrunkin. *Arch. sci. biol.* (U. S. S. R.) **38**, 389-91 (in German 392) (1935).—On the basis of electrodialysis expts. the authors conclude that all of the Cl in the gray matter is present as free Cl. No evidence of org. bound Cl could be found.
W. A. Perlzweig

A59 SLA METALLURGICAL LITERATURE CLASSIFICATION

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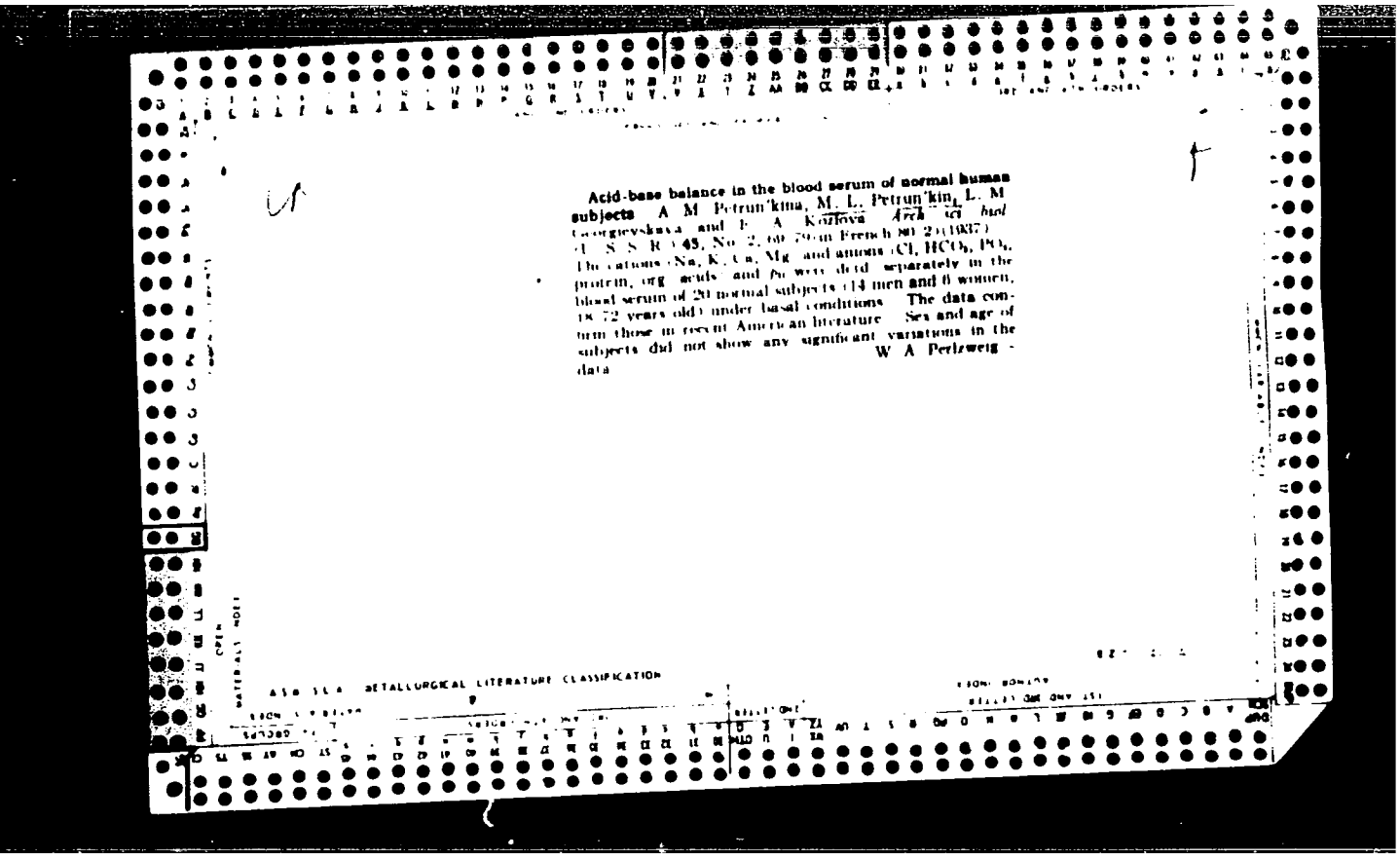

Acid-base balance in the blood serum of normal human subjects A M Petrun'kina, M. L. Petrun'kin, L. M Georgievskaya and E. A. Kozlova *Arch. sci. biol.* (U. S. S. R.) 45, No. 2, 69-79 (in French) (1937). The cations (Na, K, Ca, Mg) and anions (Cl, HCO_3, PO_4, protein, org. acids and fe were detd. separately in the blood serum of 20 normal subjects (14 men and 6 women, 18-72 years old) under basal conditions. The data confirm those in recent American literature. Sex and age of subjects did not show any significant variations in the data. W. A. Perlzweig

A 5 0 1 5 A METALLURGICAL LITERATURE CLASSIFICATION

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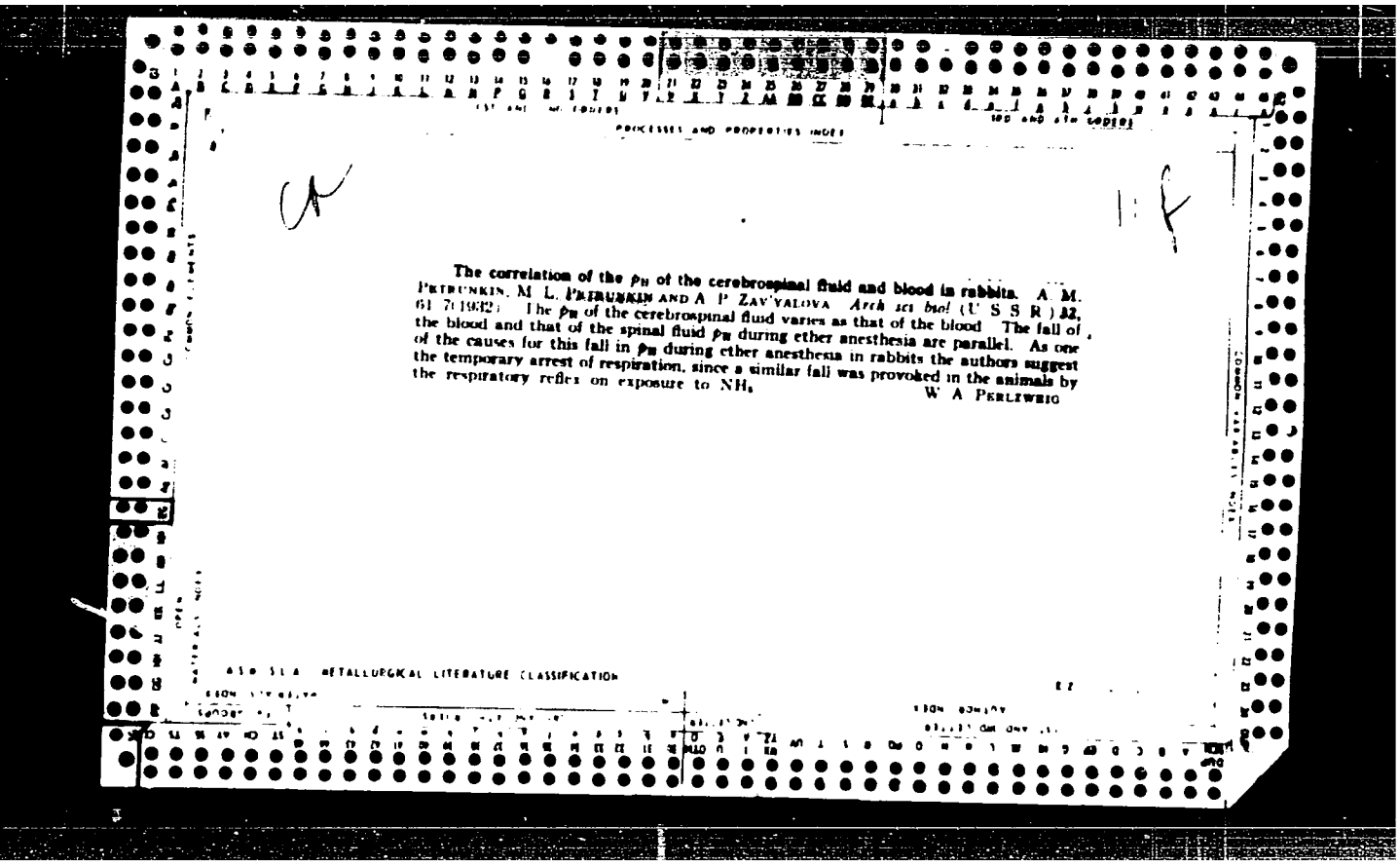

The correlation of the p_H of the cerebrospinal fluid and blood in rabbits. A M. PETRUNKIN, M L. PETRUNKIN AND A P ZAV'YALOVA *Arch sci biol* (U S S R) 32, 61-7 (1932). The p_H of the cerebrospinal fluid varies as that of the blood The fall of the blood and that of the spinal fluid p_H during ether anesthesia are parallel. As one of the causes for this fall in p_H during ether anesthesia in rabbits the authors suggest the temporary arrest of respiration, since a similar fall was provoked in the animals by the respiratory reflex on exposure to NH_3. W A PERLZWEIG

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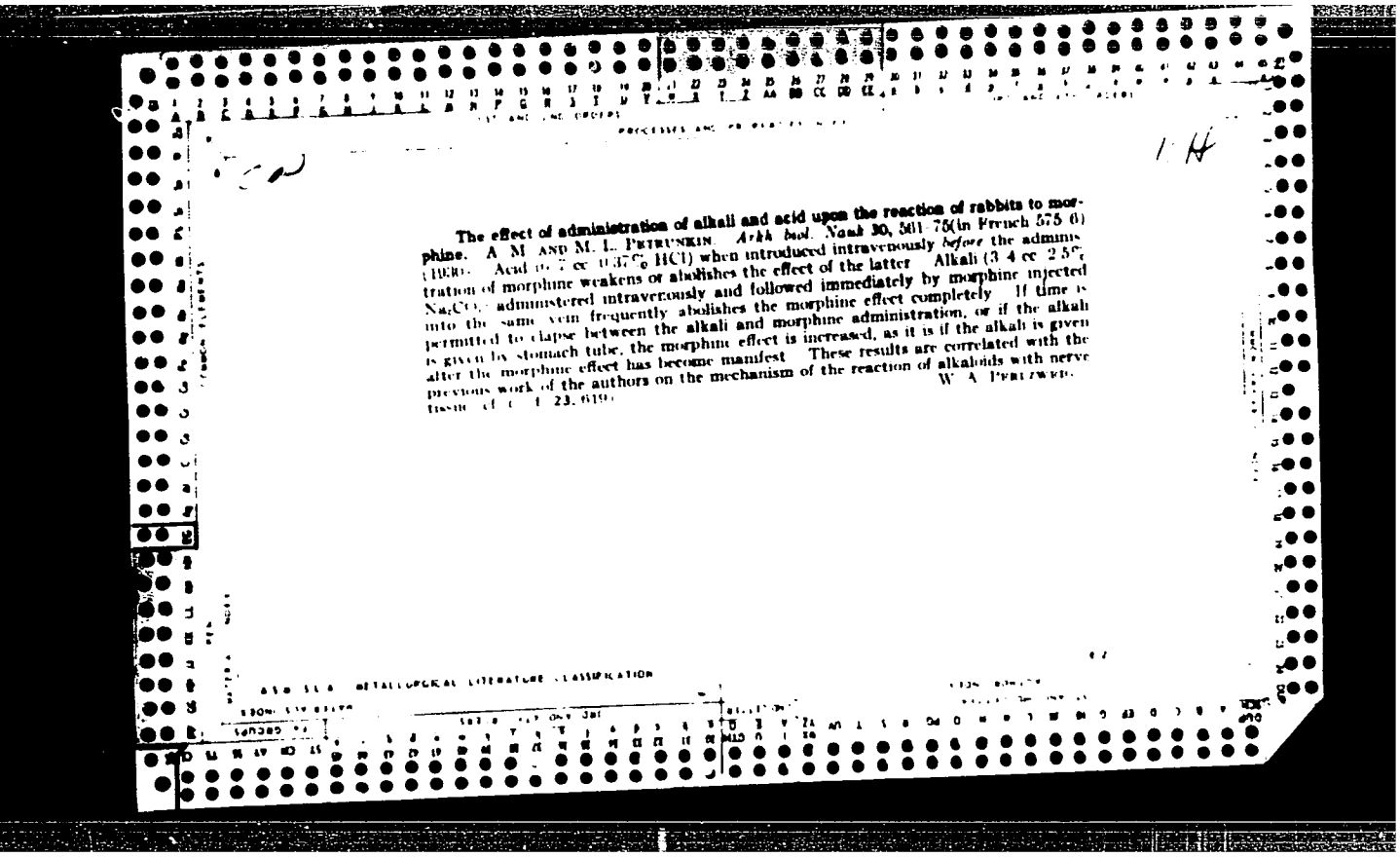

The effect of administration of alkali and acid upon the reaction of rabbits to morphine. A. M. AND M. L. PETRUNKIN. *Arkh. biol. Nauk* 30, 501-75(in French 575-6) (1930). Acid (0.7 cc. 0.37% HCl) when introduced intravenously *before* the administration of morphine weakens or abolishes the effect of the latter. Alkali (3.4 cc. 2.5% Na_2CO_3) administered intravenously and followed immediately by morphine injected into the same vein frequently abolishes the morphine effect completely. If time is permitted to elapse between the alkali and morphine administration, or if the alkali is given by stomach tube, the morphine effect is increased, as it is if the alkali is given after the morphine effect has become manifest. These results are correlated with the previous work of the authors on the mechanism of the reaction of alkaloids with nerve tissue. C. f. 23, 619.

W. A. PERLZWEIG.

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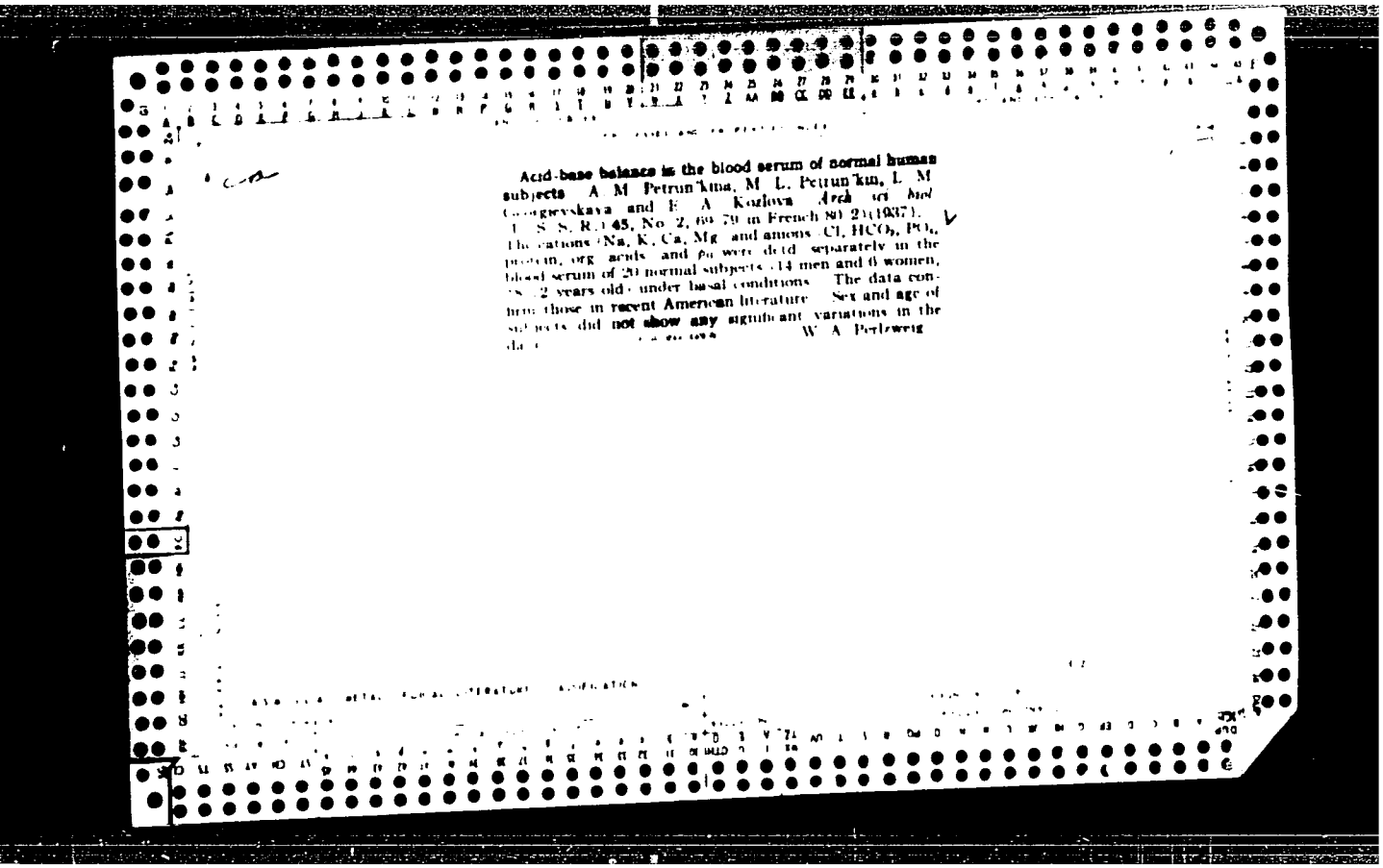

Acid-base balance in the blood serum of normal human subjects. A. M. Petrun'kina, M. L. Petrun'kin, L. M. Georgievskaya and E. A. Kozlova. *Arch. sci. biol. (Leningrad) U. S. S. R.* 45, No. 2, 69-79 (in French) 80-2 (1937). The cations (Na, K, Ca, Mg) and anions (Cl, HCO_3, PO_4, protein, org. acids and p_H) were detd. separately in the blood serum of 20 normal subjects (14 men and 6 women, 18-52 years old) under basal conditions. The data confirm those in recent American literature. Sex and age of subjects did not show any significant variations in the data. W. A. Perlowin

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUNKIN, M. L., et al.

Science

Practical biochemistry. Medgiz, 1951.

9. Monthly List of Russian Accessions, Library of Congress, October 1952 Unclassified.

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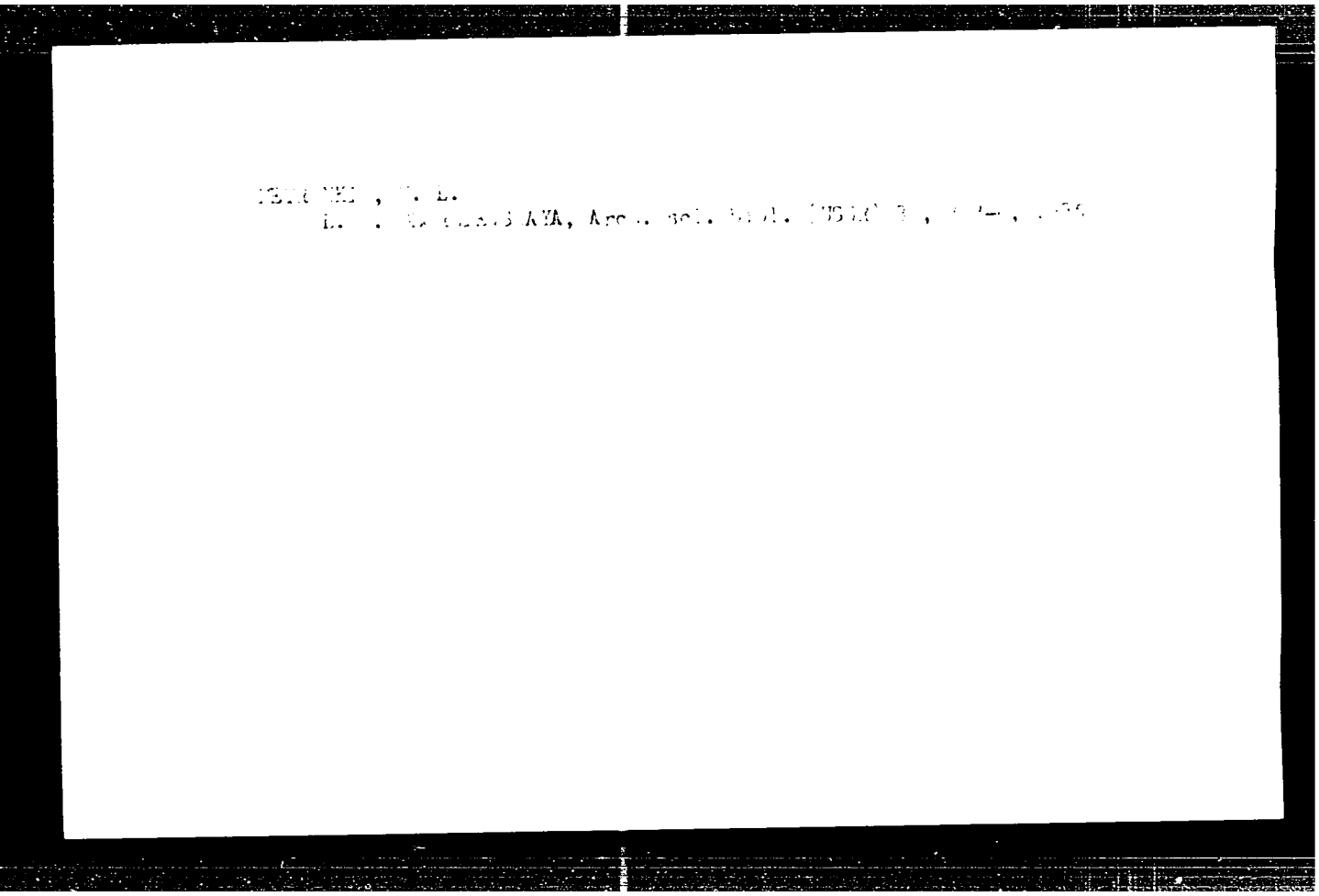

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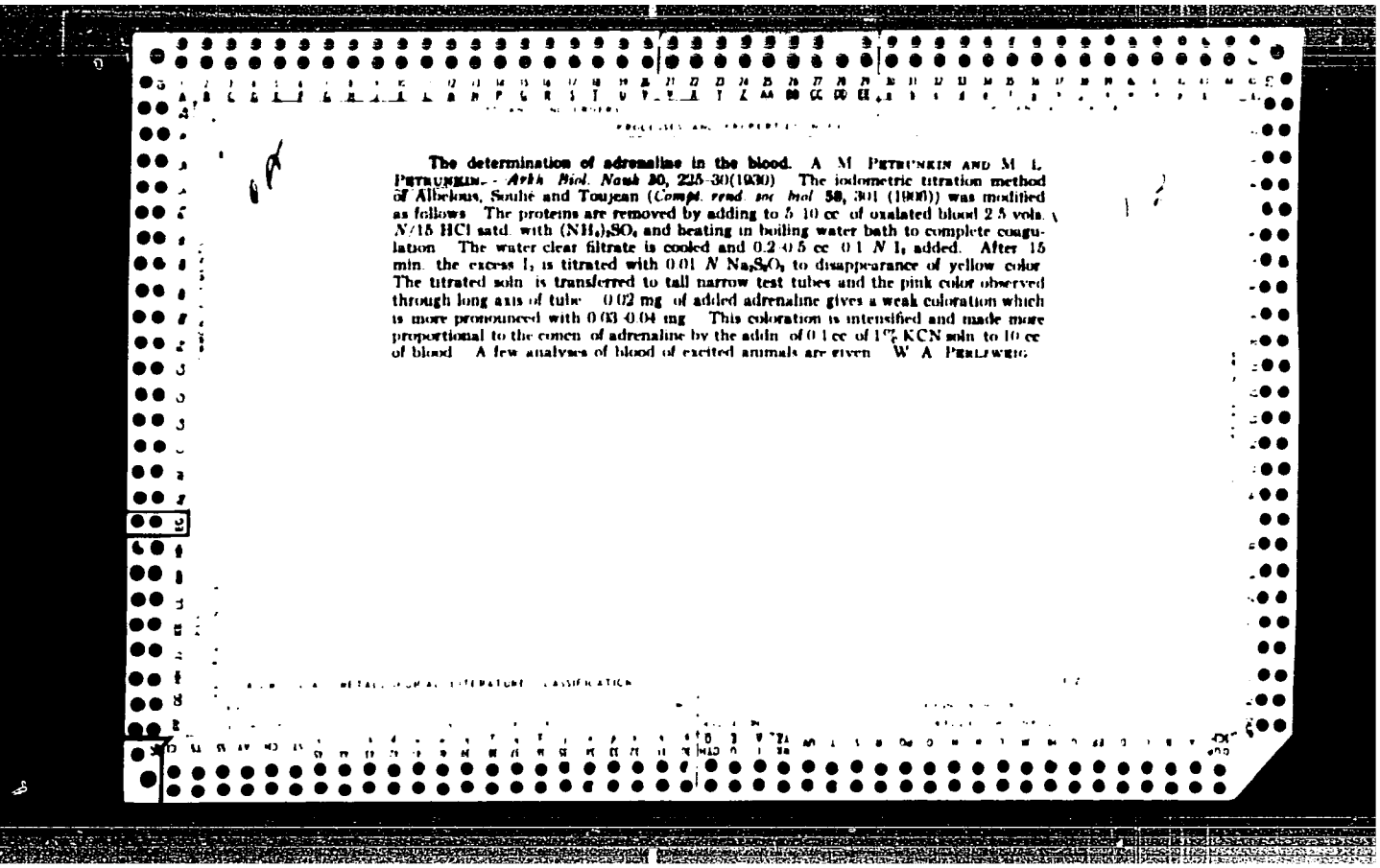

The determination of adrenaline in the blood. A M PETRUNKIN AND M L PETRUNKIN.—*Arkh. Biol. Nauk* **30**, 225–30(1930). The iodometric titration method of Albelous, Souhé and Toujean (*Compt. rend. soc. biol* **58**, 301 (1906)) was modified as follows. The proteins are removed by adding to 5–10 cc of oxalated blood 2.5 vols. *N*/15 HCl satd. with $(NH_4)_2SO_4$ and heating in boiling water bath to complete coagulation. The water clear filtrate is cooled and 0.2–0.5 cc 0.1 *N* I_2 added. After 15 min. the excess I_2 is titrated with 0.01 *N* $Na_2S_2O_3$ to disappearance of yellow color. The titrated soln. is transferred to tall narrow test tubes and the pink color observed through long axis of tube. 0.02 mg. of added adrenaline gives a weak coloration which is more pronounced with 0.03–0.04 mg. This coloration is intensified and made more proportional to the concn. of adrenaline by the addn. of 0.1 cc of 1% KCN soln. to 10 cc of blood. A few analyses of blood of excited animals are given. W. A. PERLZWEIG.

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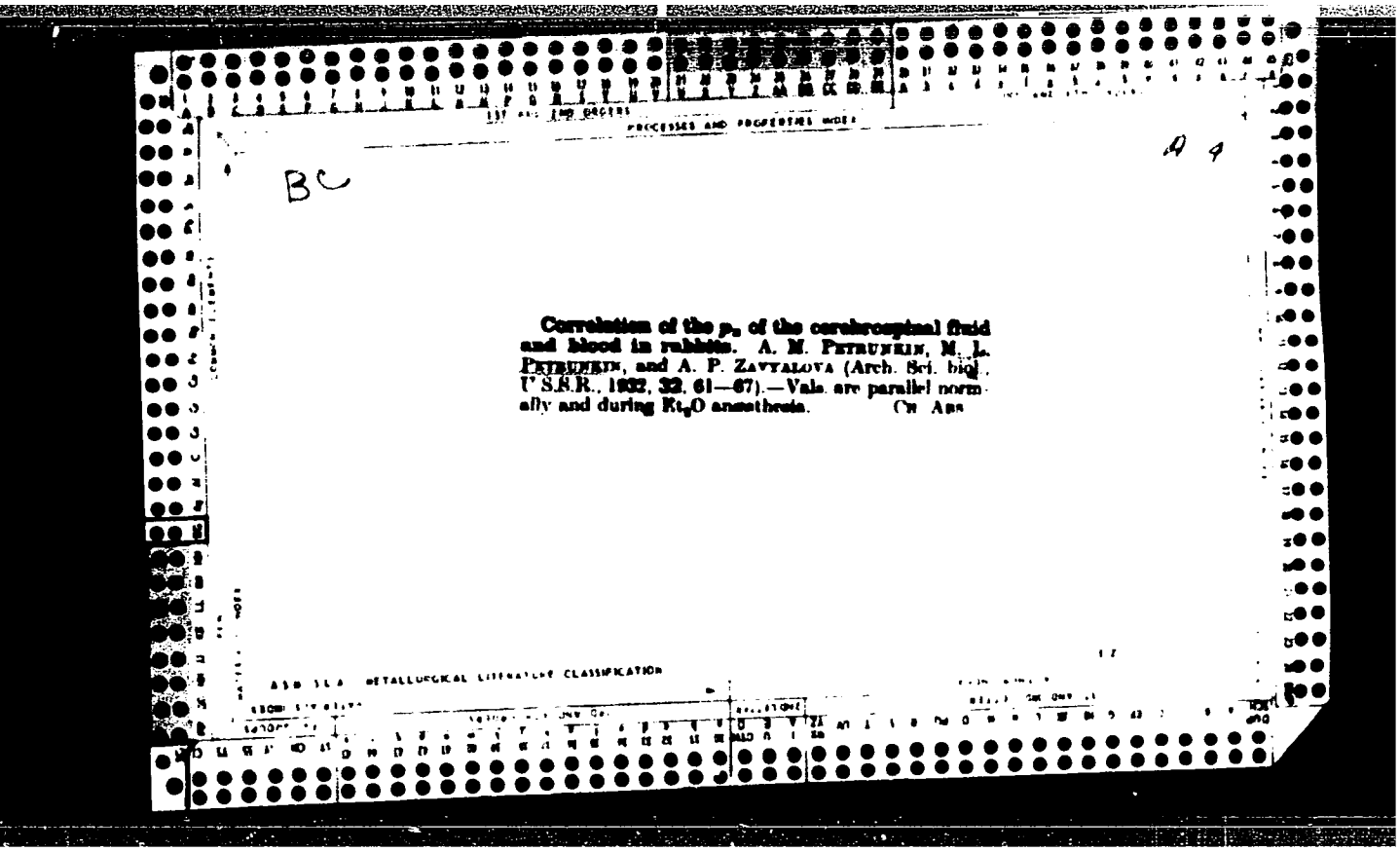

BC

A 9

Correlation of the p_{H} of the cerebrospinal fluid and blood in rabbits. A. M. PETRUNKIN, M. L. PETRUNKIN, and A. P. ZAVYALOVA (Arch. Sci. biol., U.S.S.R., 1932, 32, 61—67).—Vals. are parallel normally and during Et_2O anæsthesia. Ch. Abs

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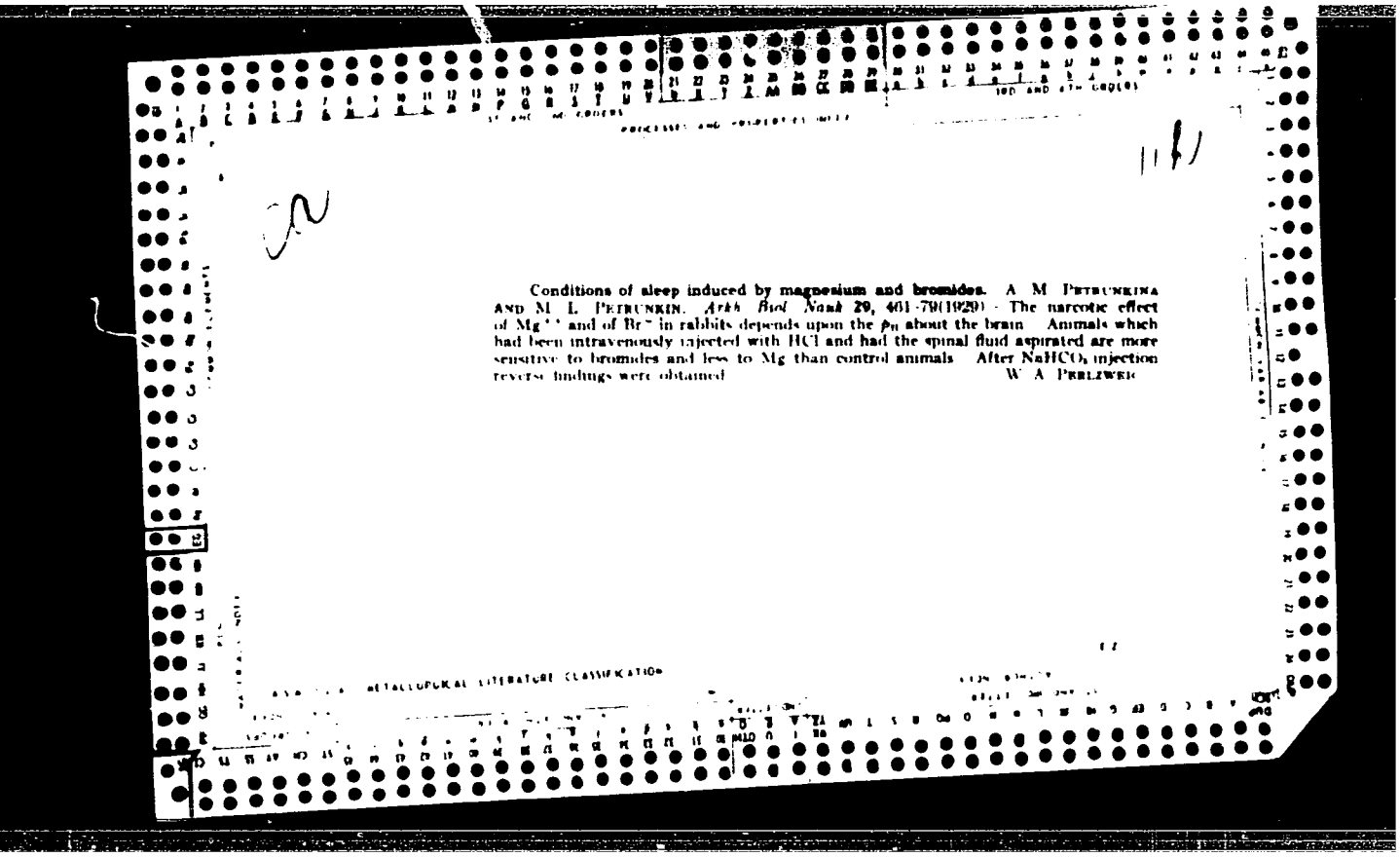

Conditions of sleep induced by magnesium and bromides. A. M. PETRUNKINA AND M. L. PETRUNKIN. *Arkh. Biol. Nauk* **29**, 461-79(1929). - The narcotic effect of Mg^{++} and of Br^{-} in rabbits depends upon the p_H about the brain. Animals which had been intravenously injected with HCl and had the spinal fluid aspirated are more sensitive to bromides and less to Mg than control animals. After $NaHCO_3$ injection reverse findings were obtained. W. A. PERLZWEIG

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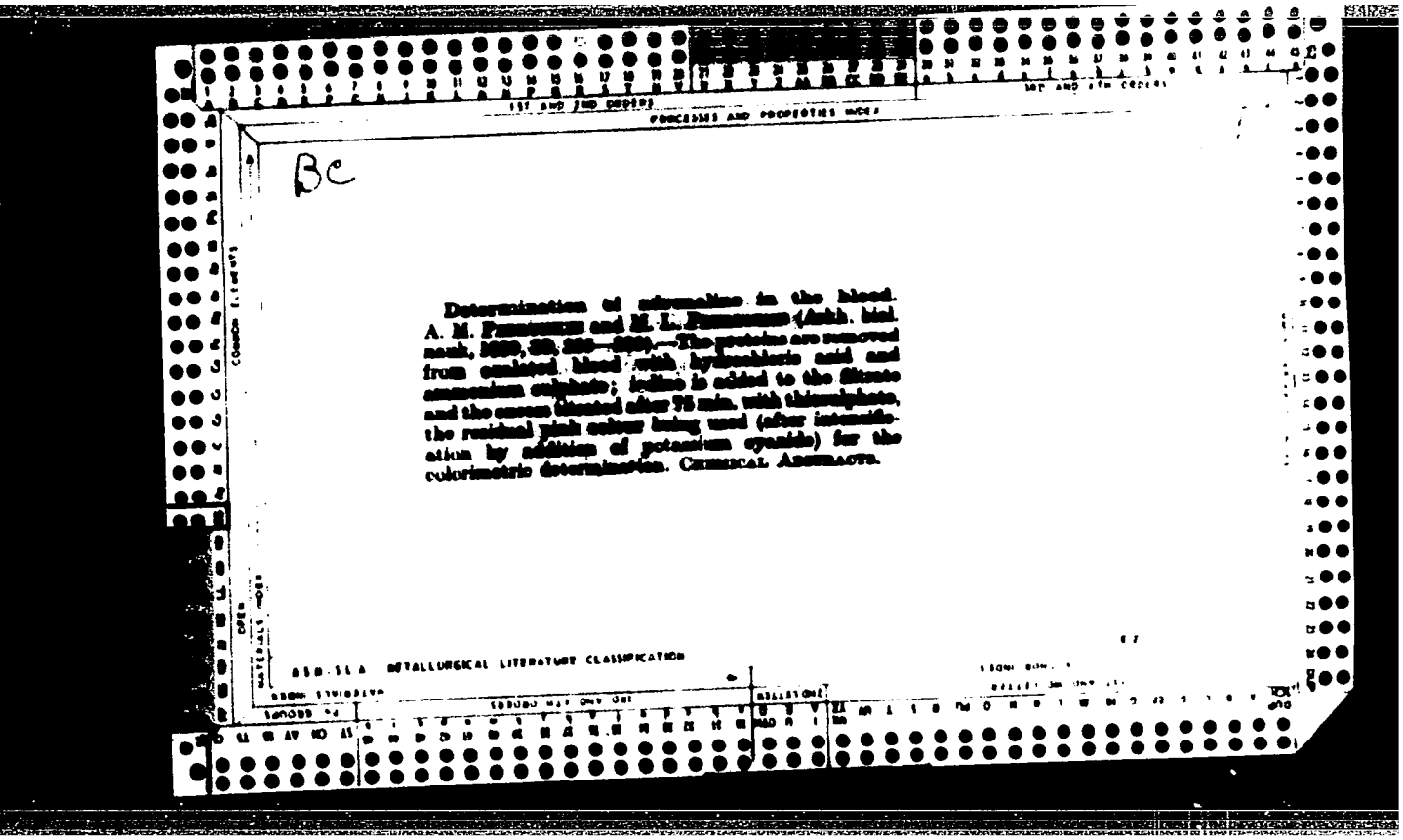

Bc

Determination of adrenaline in the blood. A. M. Pinussowa and M. L. Pinussowa (Arkh. biol. nauk, 1939, 55, 525—529).—The proteins are removed from oxalated blood with hydrochloric acid and ammonium sulphate; iodine is added to the filtrate and the excess titrated after 75 min. with thiosulphate, the residual pink colour being used (after intensification by addition of potassium cyanide) for the colorimetric determination. CHEMICAL ABSTRACTS.

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

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[illegible], [illegible], [illegible], [illegible]

[illegible]-ketosteroids and blood proteins in allergic dermatoses.
Vest. derm. i ven. no.1:15-22 '65. MIRA 18:11

1. Ukrainskiy nauchno-issledovatel'skiy kozhno-venerologicheskiy institut (dir.- dotsent A.I. Pyatikop), Khar'kov.

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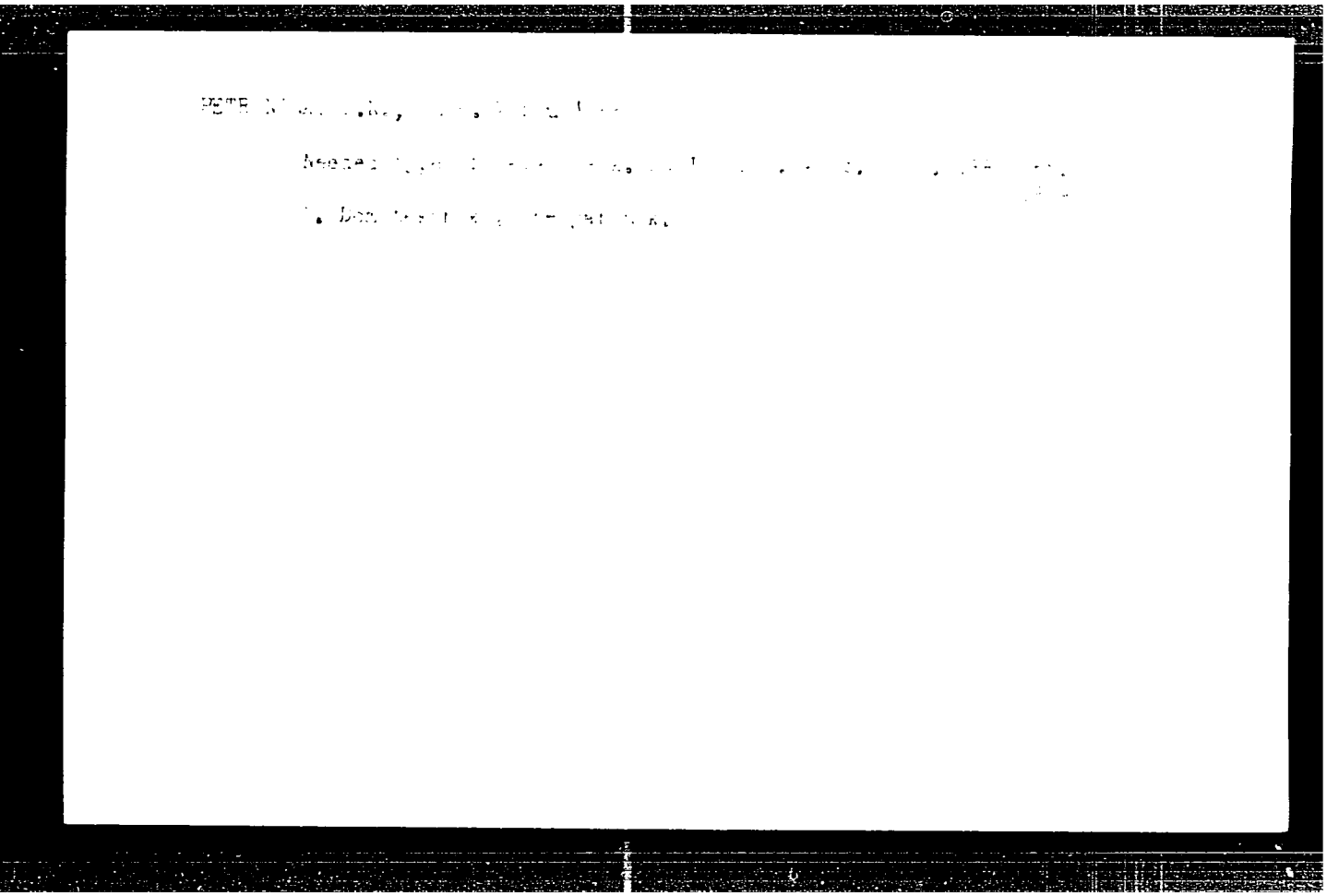

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AUTHOR BALDIN, A.M., PETRUN'KIN, V.A.

TITLE On the Scattering of Photons by Protons. 56-6-39/56
(O rasseyanii fotonov na protonakh -Russian)

PERIODICAL Zhurnal Eksperim.i Teoret.Fiziki, 1957, Vol 32, Nr 6, pp 1570-1572
(U.S.S.R.)

ABSTRACT The present paper supplies data concerning the structure of the S-matrix and the lowest number of the parameters necessary for the investigation of this scattering process. The authors deal with the problem in the following manner: They write down the S-matrix in such a representation in which its properties can be expressed in the easiest way, i.e. in the representation of the total angular momentum I and its projection M, the total isotopic spin T and its projection T_z, and the parity π. All these quantities are here referred to the center of mass system. The S-matrix is investigated on the energy surface. Only the following channels α are investigated: γ-quantum and proton (γ) as well as pion and nucleon (π). Taking account of the remaining channels exercises no essential influence upon the results. Particular interest must be directed towards the channel with production of electron-positron pairs. The matrix element of the S-matrix which describes the transition is by no means small. Actually, the formation of pairs leads to the so-called scattering on the nucleon field. However, this process has an angular distribution that is directioned sharply in a frontal direction. If the scattering angle of the order $m_e c^2/E\gamma$ need not be taken into

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PETRUN'KIN, V.A.

Electrons and the vacuum. Priroda 46 no.2:103-104 F '57.
(MLRA 10:3)

1. Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR, Moskva. (Electrons) (Vacuum)

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B006/B056

24.6900

AUTHORS: Lebedev, A. I., Petrun'kin, V. A.

TITLE: The Problem of the Production of π-Mesons in πN Collisions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 4, pp. 1337 - 1339

TEXT: The experimentally determined momentum distributions of the pions from the $\pi + N \rightarrow 2\pi + N$ reaction at kinetic energies of 1.0 and 1.4 Bev could hitherto not be satisfactorily described theoretically, except in Ref. 5 where ππ-resonance interaction had been assumed. In the present "Letter to the Editor", the authors show that also without assuming ππ-interaction, agreement between theory and experiment may be improved by proceeding from the statistical theory when calculating the pion spectra, and by taking the finite widths of the isobaric states resulting from the decay into account. The momentum distributions of mesons thus obtained are given in the c.m.s. in Figs. 1,2 for energies of 1.0 and 1.4 Bev of the incident pions. For comparison, the experimentally determined distributions and those obtained theoretically when taking

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PETRUN'KIN, V.A.

Scattering of low-energy photons on a spin 1/2 system. Zhur. eksp. i teor. fiz. 40 no.4:1148-1154 Ap '61. (MIRA 14:7)

1. Fizicheskiy institut imeni P.N.Lebedeva AN SSSR.
(Photons--Scattering) (Nuclear spin)

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S/056/62/043/005/040/058
B125/B104

AUTHORS: Gerasimov, S. B., Lubimov, V. I., Petrun'kin, V. A.

TITLE: On the theory of neutron scattering by the Coulomb field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5(11), 1962, 1872-1879

TEXT: The scattering of a neutron with regard to the electrical formfactor of the neutron and the contact interaction of the neutron with the nucleus is investigated in first and second perturbation-theoretical approximation. The behavior of a nucleon in the electromagnetic field is described phenomenologically, by the matrix element

$$\langle p' | j_\mu | p \rangle = i\bar{u}(p') [g_{1n}(q^2)\gamma_\mu + g_{2n}(q^2)\sigma_{\mu\nu}q_\nu] u(p),$$

$$q = p' - p, \quad \sigma_{\mu\nu} = \frac{1}{2} i(\gamma_\mu\gamma_\nu - \gamma_\nu\gamma_\mu), \quad g_{1n}(0) = 0, \quad g_{2n}(0) = \mu_n.$$

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On the theory of neutron...

The spinors $\bar{u}(p')$ and $u(p)$ refer respectively to the final and the initial state of the neutron with the momentum p' and p. Here $F_{1n}(q^2)$ is the electrical formfactor of the neutron, $F_{2n}(q^2)$ its magnetic moment...

The scattering of the neutron in the Coulomb field of the nucleus the lowest-order radiation correction described by the diagram...
The diagram a describes the interaction of the magnetic moment with the electric field of the nucleus in the perturbation-theoretical...
diagram b describes the second-order approximation of this interaction...
The contribution of diagram b differs from the contribution...
bility of the meson cloud by the...
of the π with the current (γ), the diagram is considered...
...by their experimental values for the anomalous magnetic moment...
$\mu_n = ze/2Mc$, λ - weight of the neutron. Possibly, also the...
6th order with respect to α contribute substantially to the...
scattering of nucleons or nuclei. The first two members of the...
cross section

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On the theory of neutron...

$$\frac{d\sigma}{d\Omega} = \frac{F_n^2(q)}{4p^2v^2\sin^4(\theta/2)}\,g_{1n}^2(q^2)\left(1 - \frac{v^2}{c^2}\sin^2\frac{\theta}{2}\right) + \frac{[F_n^2(q)\,g_{2n}^2(q^2)}{\sin^2(\theta/2)} + \qquad (4)$$

$$+ \frac{p^2Z^4e^4}{\cos^2(\theta/2)}\left[\pi\left(1 - \sin\frac{\theta}{2}\right)^2 + 4\ln^2\sin\frac{\theta}{2}\right].$$

of the scattering of neutrons calculated according to R. Oehme (Progr. Theor. Phys. Soc. 9[illegible], 1[illegible]1) corresponds to the diagram a and the third member corresponds to the diagram b. The difference of the second member of (4) from the non-relativistic formula by J. Schwinger (Phys. Rev., 73, 407, 1948) is conditioned by the automatical consideration of the interaction $i(\mu_n/Mc)(\vec{\sigma}\vec{F})$. μ_n designates the abnormal magnetic moment of the neutron. This difference becomes most evident if angles are large. The third member in (4) depends linearly on the kinetic energy of the neutron and can contribute substantially if energies are of $\sim$100 Mev. The total cross section of the production of an electron-positron pair on a neutron as a function of the photon energy k_0 takes the form

$$\sigma_n = 16e^2(\mu_n/2M)^2\left[\frac{4}{3}\ln^2 2k_0 - \frac{26}{9}\ln 2k_0 + \frac{181}{54} - 2\pi^2/9\right]. \qquad (5)$$

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On the theory of neutron...

in the ultrarelativistic case. By means of dispersion relations, the contribution

$$\mathrm{Re}\, f(k_0) = k_0^2 \gamma(k_0) = \frac{k_0^2}{2\pi^2} \int_{k_{\mathrm{thr}}}^{\infty} \frac{\sigma_n(k_0')}{k_0'^2 - k_0^2} dk_0' \qquad (10)$$

of the pair production to the amplitude of the n-scattering is obtained. The contribution of the diagrams γ_5 to the low-frequency limit of the n-scattering is 1/6 of the contribution of the polarizability of the meson cloud of the neutron. It is shown that the additional interaction potential $U_{int} = -(1/2)\alpha'_n k_0^2$ is conditioned by non-linear electrodynamic effects if the distance R between neutron and nucleus is large. $\alpha'_n = \gamma a^{-3}$ holds and it is assumed that $a \sim 0.5$ f, mc. Deviations observed in the experimentally determined cross sections of the neutron scattering on nuclei from those determined theoretically can not be explained by the electrodynamic effects investigated. Further, if U_{int} is expanded in powers of R^{-1} the members of higher order can become essential for experimental results. This can lead to a strong energy dependence of the cross section in the range of the

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LEBEDEV, A.I.; PETRUN'KIN, V.A.

Magnetic polarizability of π-mesons and K-mesons. IAd. fiz. 2 no.4:730-732 O '65. (MIRA 18:11)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR.

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S/194/61/000/008/008/092
D201/D304

AUTHOR: Petrunin, V.I.

TITLE: Arrangement for automatic field plotting by means of an electrolytic tank

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 14, abstract 8 A94 (Izv. Leningr. elektrotekhn. in-ta, 1960, no. 43, 39-44)

TEXT: A description is given of the arrangement for automatic plotting of field distributions by means of an electrolytic tank. The arrangement permits plotting of the field with great accuracy and speed, excluding at the same time subjective operator errors. The electronic probe for equipotential lines (the basic part of the equipment) works on a phase principle, marking (by an electronic circuit) the instants at which the probe crosses the equipotential line. The probe signal is produced by parasitic (capacitive) current components in the tank and is shifted either

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Arrangement for automatic field...

ber of equipotentials determined at a time is 12. The instrument may be used for analyzing the shape of the model electrodes. The procedure is given for experimentally determining the instrument error. [Abstracter's note: Complete translation]

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GORYUNOV, N.S., kand.tekhn.nauk; PETRUNIN, V.M. (g.Alma-Ata)

Irrigation regime of corn in southeastern Kazakhstan. Gidr. i mel. 13 no.6:3-12 Je '61. (MIRA 14:6)
(Kazakhstan--Corn (Maize)--Irrigation)

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PETRUN, V.E. PETRUN'KIN, V.E.

Synthesis and properties of dimercapto derivatives of alkanesulfonic acids. I. Synthesis of sodium 2,3-dimercaptopropanesulfonate (Unithiol) and sodium mercaptoethanesulfonate. V. E. Petrun'kin. *Ukrain. Khim. Zhur.* 22, 603-7(1956)(in Russian).—CH_2:$CHCH_2Br$ and Na_2SO_3 form CH_2:$CHCH_2SO_3Na$, the di-Br deriv. of which and NaSH form $HSCH_2CH(SH)CH_2SO_3Na$, pptg. with $Pb(OAc)_2$ $(S.Pb.S.CH_2.CHCH_2SO_3)_2Pb$ (I), m. 202°. I with H_2S in EtOH or with H_2SO_4 in H_2O forms $HSCH_2CH(SH)CH_2SO_3H$ from which the Na (II) (m. 235°), K, and Ba salts are prepd. II and $AgNO_3$ form $AgSCH_2CH(SAg)CH_2SO_3Ag$, m. 160-5°. H_2O_2 oxidation of II in the presence of $CuSO_4$ forms $S_2CH(CH_2SO_3Na).CH_2.S_2.CH_2.CHCH_2SO_3Na$ (III) which does not bleach iodine or give ppts. with Pb, Ca, or Ba ions. The related S-benzylthiuronium salt m. 177-8°. III is oxidized by Br to propanetrisulfonic acid, isolated as its tri-Ba salt. $HS(CH_2)_2SO_3Na$ and $S.(CH_2)_2.SO_3.Pb$ were similarly prepd. from $Br(CH_2)_2SO_3Na$. II. Cyclic thioarsenates from sodium 2,3-dimercaptopropanesulfonate (Unithiol). *Ibid.* 608-11.—II and $RAsO$, $RAsCl_2$, or $RAsO_2H_2$ (excess II is needed to reduce the As) form

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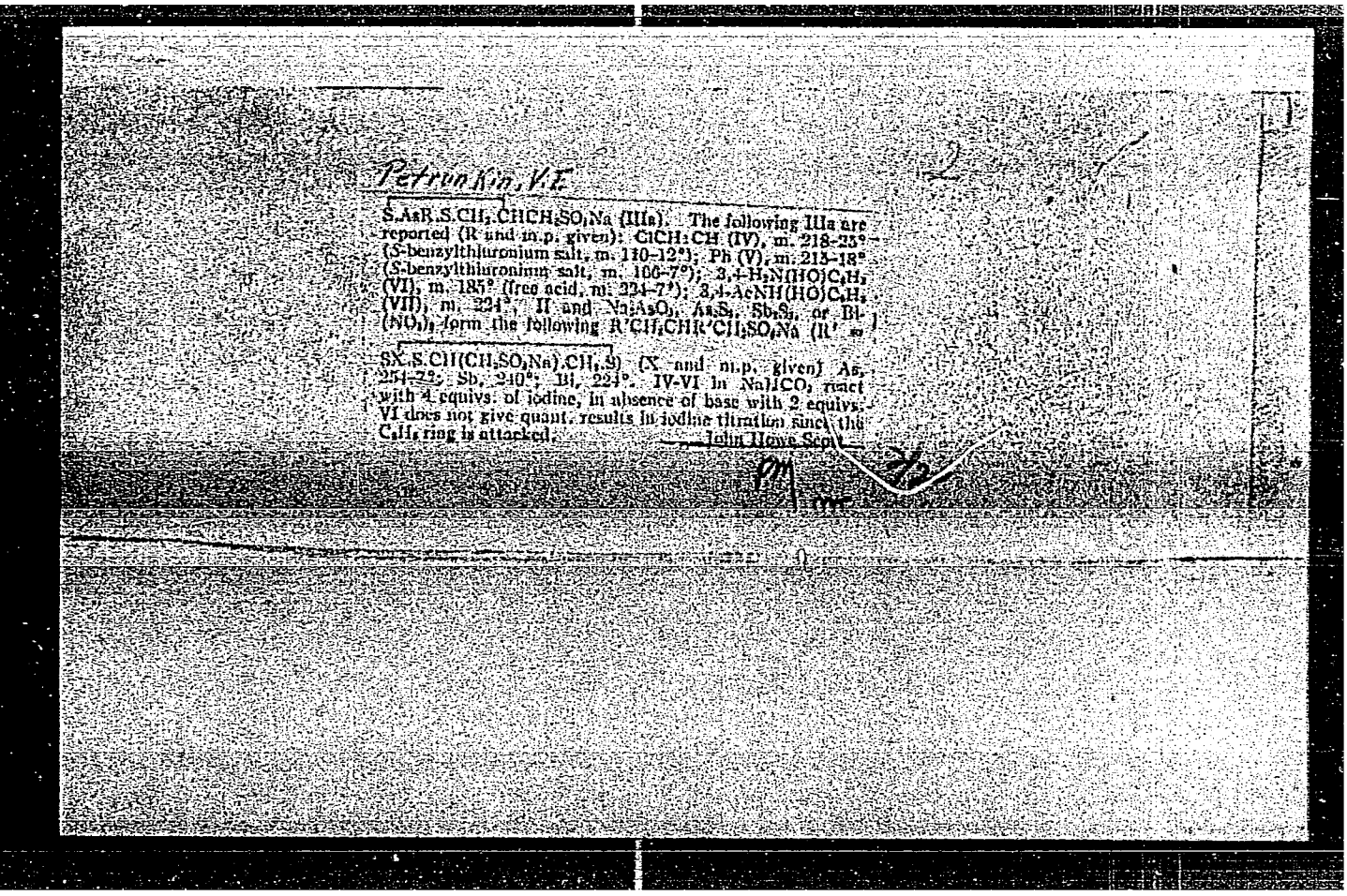

Petrunkin, V.E.

S.AsR.S.CH$_2$.CHCH$_2$SO$_3$Na (IIIa). The following IIIa are reported (R and m.p. given): ClCH:CH (IV), m. 218–25°; (S-benzylthluronium salt, m. 110–12°); Ph (V), m. 213–18° (S-benzylthluronium salt, m. 166–7°); 3,4-H$_2$N(HO)C$_6$H$_3$ (VI), m. 185° (free acid, m. 224–7°); 3,4-AcNH(HO)C$_6$H$_3$ (VII), m. 224°. II and Na$_3$AsO$_3$, As$_2$S$_3$, Sb$_2$S$_3$, or Bi(NO$_3$)$_3$ form the following R'CH$_2$CHR'CH$_2$SO$_3$Na (R' =

SX.S.CH(CH$_2$SO$_3$Na).CH$_2$.S) (X and m.p. given) As, 254–7°; Sb, 240°; Bi, 224°. IV-VI in NaHCO$_3$ react with 4 equivs. of iodine, in absence of base with 2 equivs.; VI does not give quant. results in iodine titration since the C$_6$H$_3$ ring is attacked.

—John Howe Sept.

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PETRUNKIN, V. E.

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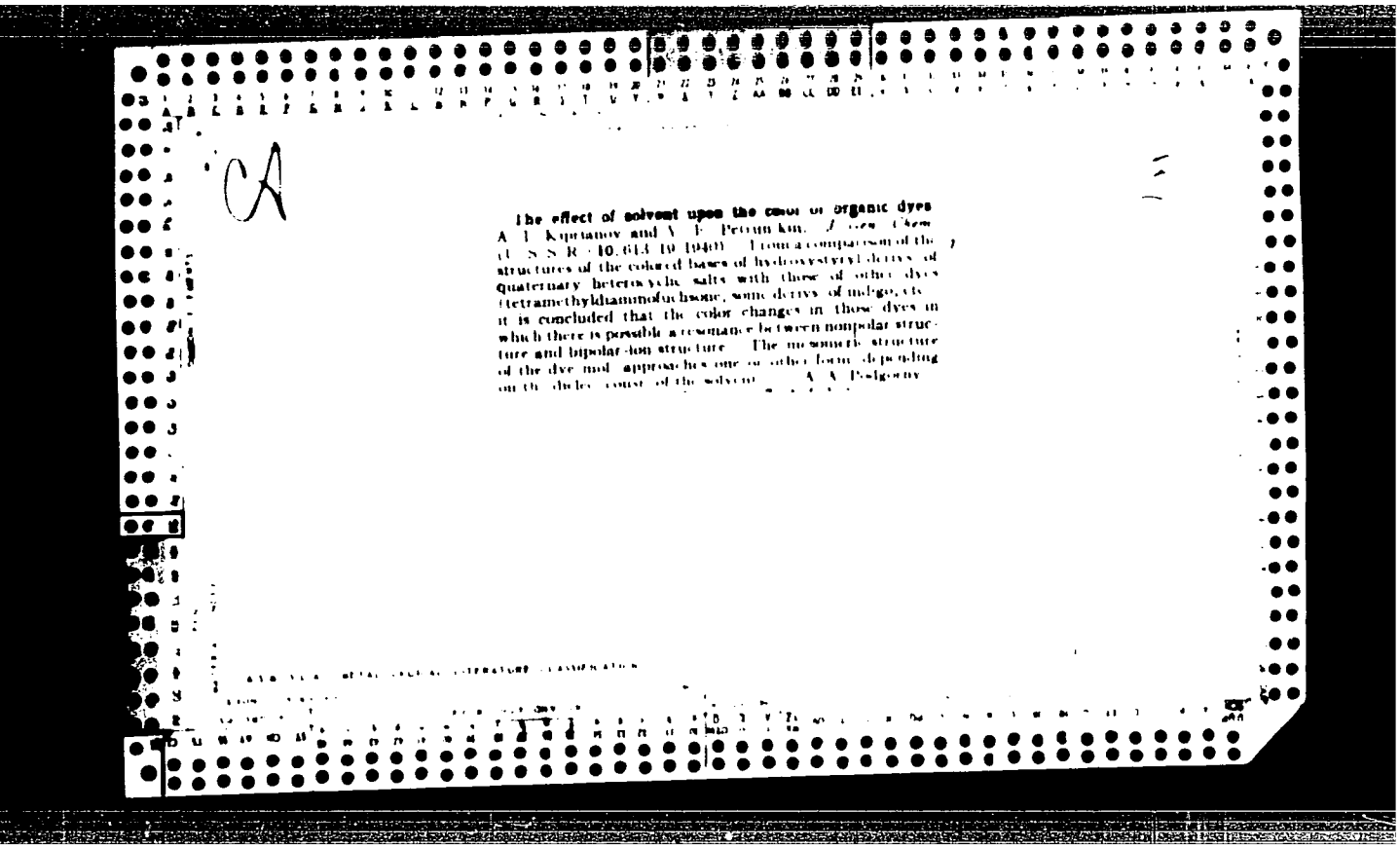

CA

The effect of solvent upon the color of organic dyes
A. I. Kiprianov and V. F. Petrun kin. *J. Gen. Chem.* (U. S. S. R.) 10, 613-19 (1940). From a comparison of the structures of the colored bases of hydroxystyryl derivs. of quaternary heterocyclic salts with those of other dyes (tetramethyldiaminofuchsone, some derivs. of indigo, etc.) it is concluded that the color changes in those dyes in which there is possible a resonance between nonpolar structure and bipolar-ion structure. The mesomeric structure of the dye mol. approaches one or other form, depending on the dielectric const. of the solvent. A. A. Podgornov

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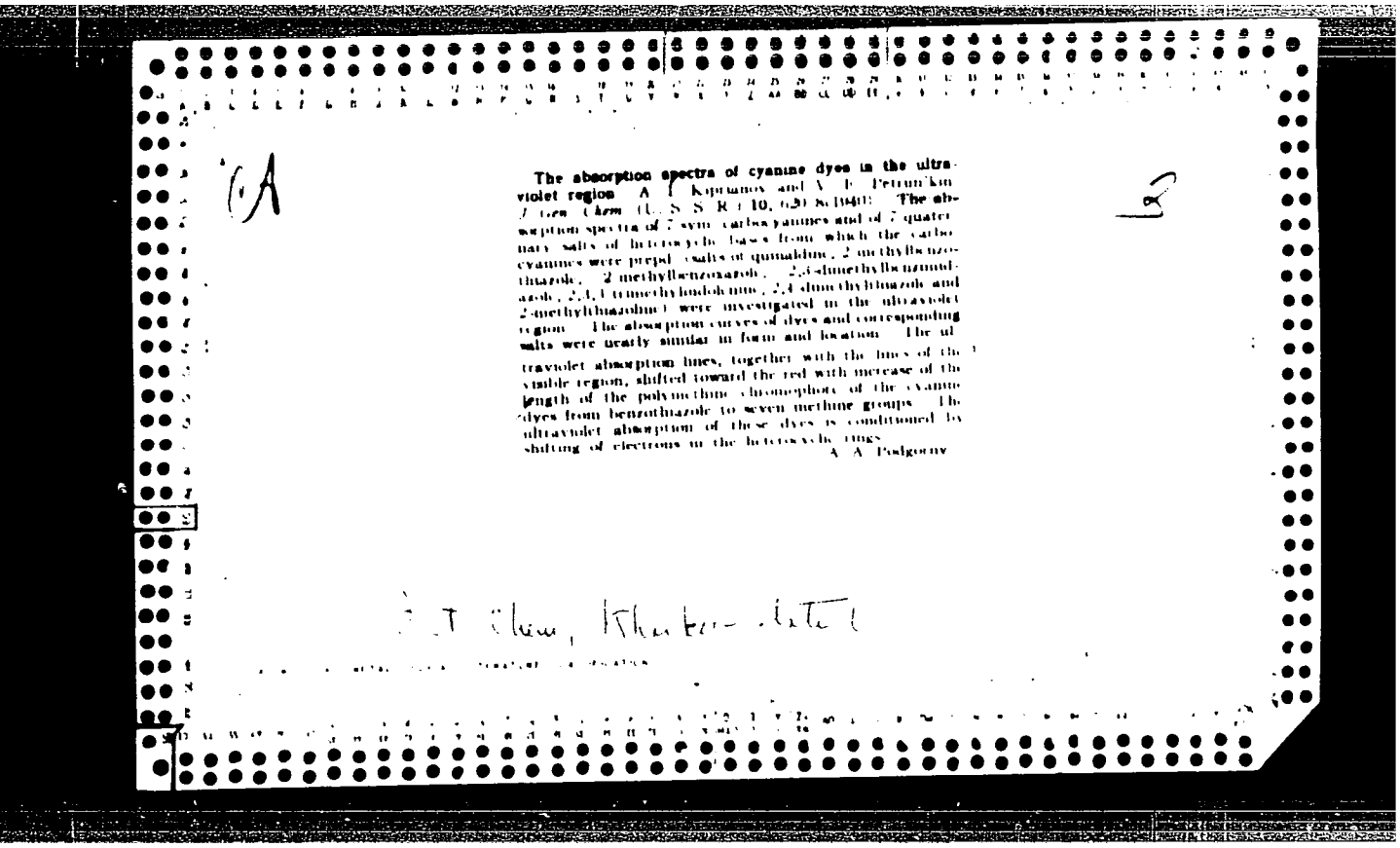

(A

The absorption spectra of cyanine dyes in the ultraviolet region. A. I. Kiprianov and V. P. Petrunkin. *Zhur. Obshch. Khim.* (U. S. S. R.) 10, 630-8 (1940). The absorption spectra of 7 sym. carbocyanines and of 7 quaternary salts of heterocyclic bases from which the carbocyanines were prepd. (salts of quinaldine, 2-methylbenzothiazole, 2-methylbenzoxazole, 2,3-dimethylbenzimidazole, 2,3,3-trimethylindolenine, 2,4-dimethylthiazole and 2-methylthiazoline) were investigated in the ultraviolet region. The absorption curves of dyes and corresponding salts were nearly similar in form and location. The ultraviolet absorption lines, together with the lines of the visible region, shifted toward the red with increase of the length of the polymethine chromophore of the cyanine dyes from benzothiazole to seven methine groups. The ultraviolet absorption of these dyes is conditioned by shifting of electrons in the heterocyclic rings.

A. A. Podgornaya

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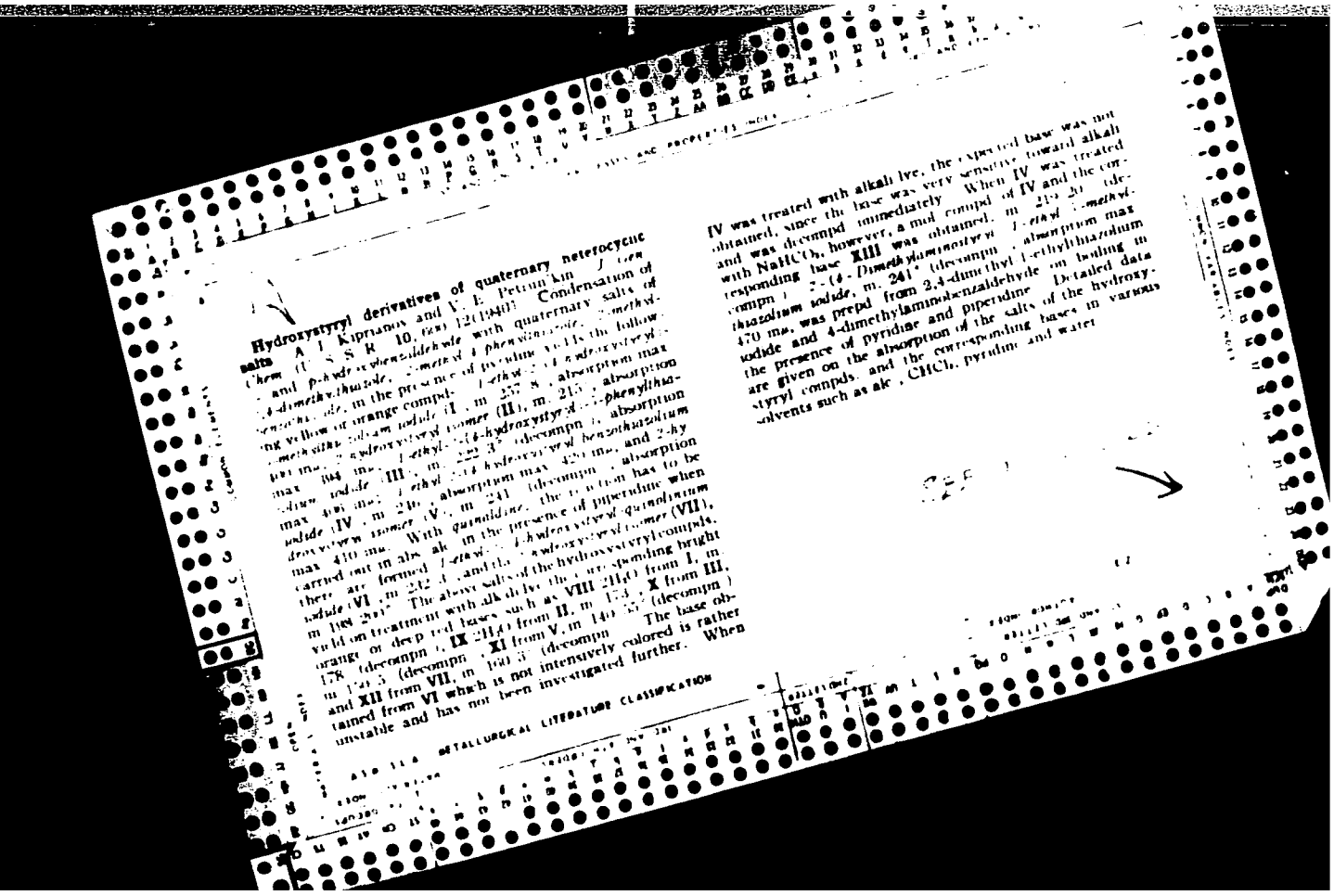

Hydroxystyryl derivatives of quaternary heterocyclic salts A. I. Kiprianov and V. E. Petrunkin. *J. Gen. Chem.* (U.S.S.R.) 10, 1(2), 12(1940). Condensation of ... and *p*-hydroxybenzaldehyde with quaternary salts of ... 4-dimethylthiazole, ... in the presence of piperidine ... 2-methyl-... ing yellow or orange compds. ... I, m. 255°; ... absorption max ... -methyl-... -hydroxystyryl ... II, m. 215°; ... absorption max ... 2-hydroxystyryl ... isomer (II), m. 215°; ... absorption max ... 1-ethyl-2-[4-hydroxystyryl]- ... -phenylthiazolium iodide (III), m. ... 3°; decompn. ... absorption max ... 1-ethyl-2-[4-hydroxystyryl] benzothiazolium iodide (IV), m. 210°; absorption max 450 mμ. With quinaldine, the reaction has to be carried out in abs. alc. in the presence of piperidine when there are formed 1-ethyl-2-[4-hydroxystyryl]quinolinium iodide (VI), m. 242°. The above salts of the hydroxystyryl compds. yield on treatment with alk. alc. the corresponding bright orange or deep red bases such as VIII (214°) from I, m. 178° (decompn.), IX (214°) from II, m. 154°; X from III, m. 145.5° (decompn.), XI from V, m. 140-5° (decompn.) and XII from VII, m. 160° (decompn.). The base obtained from VI which is not intensively colored is rather unstable and has not been investigated further. When IV was treated with alkali ... the expected base was not obtained, since the latter was very sensitive toward alkali and was decompd. immediately. When IV was treated with NaHCO3, however, a mol. compd. of IV and the corresponding base **XIII** was obtained, m. 215-20° (decompn.). *1-Ethyl-2-(4-Dimethylaminostyryl)-* ... absorption max ... thiazolium iodide, m. 241° (decompn.), was prepd. from 2,4-dimethyl ... 1-ethylthiazolium iodide and 4-dimethylaminobenzaldehyde in ... 470 mμ. was prepd. from ... absorption max ... the presence of pyridine and piperidine. Detailed data are given on the absorption of the salts of the hydroxystyryl compds. and the corresponding bases in various solvents such as alc., $CHCl_3$, pyridine and water.

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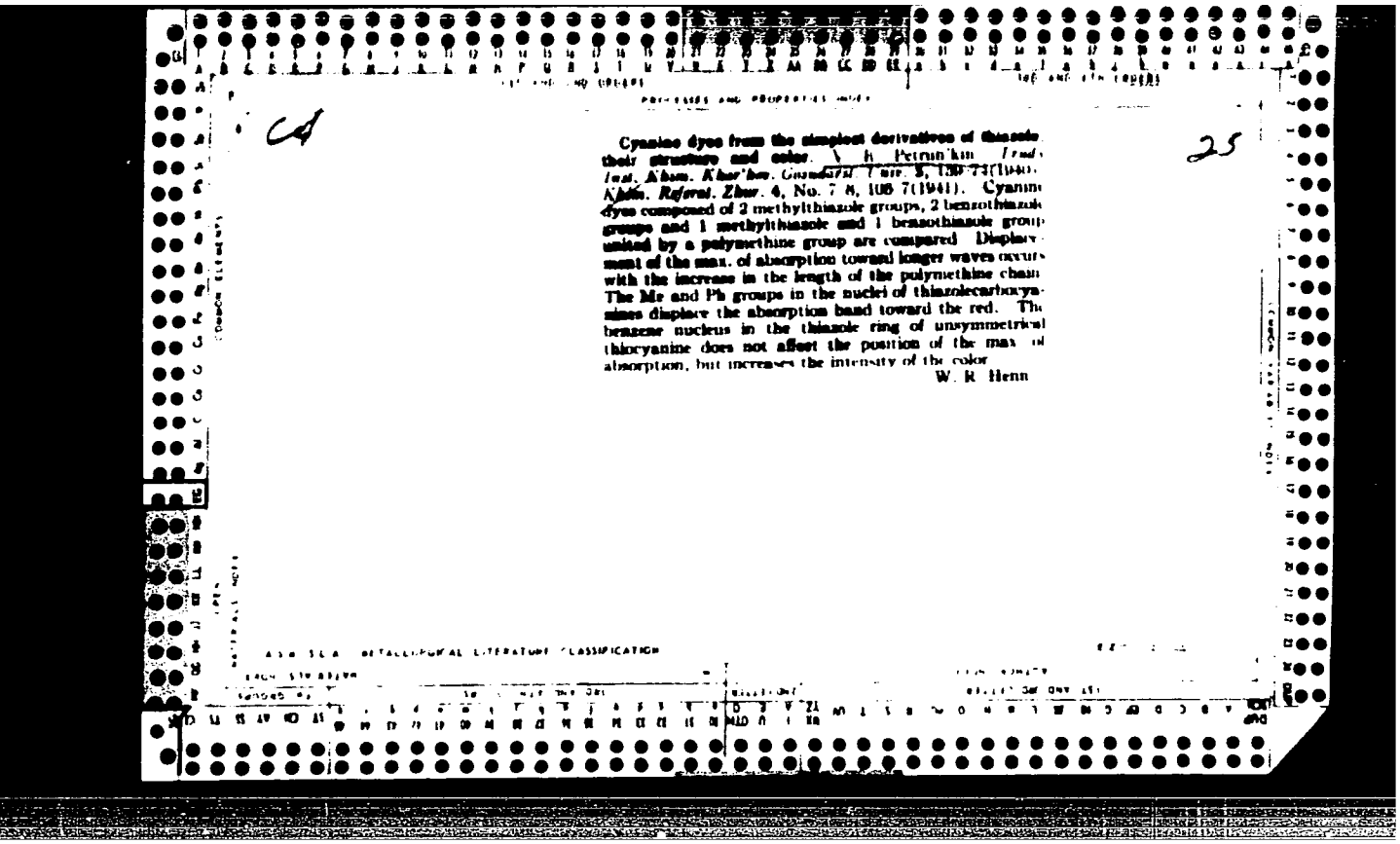

Cyanine dyes from the simplest derivatives of thiazole, their structure and color. V. P. Petrun'kin. *Trudy Ivan. Khim. Khar'kov. Gosudarst. Univ.* 8, 139-73(1940). *Khim. Referat. Zhur.* 4, No. 7 8, 108-7(1941). Cyanine dyes composed of 2 methylthiazole groups, 2 benzothiazole groups and 1 methylthiazole and 1 benzothiazole group united by a polymethine group are compared. Displacement of the max. of absorption toward longer waves occurs with the increase in the length of the polymethine chain. The Me and Ph groups in the nuclei of thiazolecarbocyanines displace the absorption band toward the red. The benzene nucleus in the thiazole ring of unsymmetrical thiocyanine does not affect the position of the max. of absorption, but increases the intensity of the color.

W. R. Henn

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

AUTHORS: Petrun'kin, V. Ye., Lysenko, N. M. S/[illegible]/62/[illegible]/[illegible]/[illegible]

TITLE: Synthesis and Properties of the Dimercapto Derivatives [illegible] i svoystva dimerkaptoproizvodnykh alkansul'fokislot) V. Sodium-1,3-dimercapto propane-2-sulfonate (V. 1,3-dimerkaptopropan-2-sul'fonat natriya).

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 309-313 (USSR)

ABSTRACT: In a previous paper Petrun'kin (Ref 2) described the synthesis of sodium-2,3-dimercapto propane sulfonate (unithiol) which is utilized in medicine as an antidote for arsenic and mercury compounds as well as of other compounds of heavy metals. The sodium-1,3-dimercapto propane-2-sulfonate (isounithiol) which is isomeric to unithiol has hitherto been unknown. As it is related to α-lipoidic acid with respect to structure which plays an important part in the metabolic processes of the organism (Ref 1), this acid may perhaps be used as a model. For the synthesis of the isomer of unithiol the method according to Hach (Ref 4) was employed in the synthesis of some 1,2-dithiols It consists of the transformation of the derivatives of 2-phenyl-1,3dithiolane into 1,2-dithiols with help of HgCl2 in the presence of cadmium carbonate according to the scheme:

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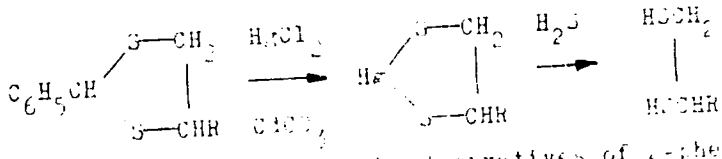
Synthesis and properties of the [illegible] derivatives. V. [illegible]-dimercapto Propane-2-sulfonate



It was found that also the derivatives of [illegible]-phenyl-1,3-dithiane react with $HgCl_2$. In this connection dithiols form in good yields if the cleavage of the dithiane cycle is carried out with $HgCl_2$ in the presence of sodium carbonate. On the same basis the synthesis of sodium 1,3-dimercapto propane-2-sulfonate was carried out with 1,3-dithiolglycerin as initial product; this synthesis was carried out according to the transformations mentioned in scheme 2. By condensation of 1,3-dithiolglycerin with benzaldehyde 2-phenyl-5-oxy-1,3-dithiane (I was obtained which was transformed with PBr_3 into 2-phenyl-5-bromo-1,3-dithiane (II). Compound (II) passed over into the isomer of unithiol, the 1,3-dimercapto propane-2-sulfonate of sodium by sodium sulfite and subsequent treatment of the formed sodium-

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SOV/79-29-1-65/74

Synthesis and Properties of the Dimercapto Derivatives. V. Sodium-1,3-dimercapto Propane-2-sulfonate

2-phenyl-1,3-dithiane-5-sulfonate with $HgCl_2$ in the presence of soda. This product (isounithiol) was transformed into sodium-1,2-dithiolane-4-sulfonate by oxidation. Some of its derivatives were obtained. There are 1 table and 6 references, 3 of which are Soviet.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy sanitarno-khimicheskiy institut (Ukrainian Scientific Research Institute of Sanitation and Chemistry)

SUBMITTED: October 28, 1957

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

VASIL'YEVA, Ye.A.; NEKRASKIN, I.E.; PETRUNKIN, V.Ye.

Comparative evaluation of the stability of [illegible] of dithizones with cobalt ions. Zhur.neorg.khim. 10 no.2, 481-484 '65. (MIRA 18:12)

1. Ukrainskiy nauchno-issledovatel'skiy sanitarno-gigiyenicheskiy [illegible]. Submitted Sept. 25, 1963.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

VASIL'YEVA, Ye.V.; NEDOPEKIN, T.K.; PETRUN'KIN, V.Ye.

Complex-forming capacity of mercapto compounds. Part 1: Comparative evaluation of the strength of complex compounds of dithiols with mercury, lead, cadmium, and zinc cations. Ukr.khim.zhur. 28 no.7:773-778 '62. (MIRA 15:12)

1. Unrainskiy nauchno-issledovatel'skiy sanitarno-khimicheskiy institut. (Organometallic compounds) (Dithiol)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUN'KIN, V. Ye.; PORTNYAGINA, V. A.

Sodium 2-(β,γ-dimercaptopropoxy)-ethanesulfonate, an analog of unithiol. Uk. khom. shur. 28 no.6:721-723 '62.
(MIRA 15:10)

1. Ukrainskiy nauchno-issledovatel'skiy sanitarno-khimicheskiy institut.

(Propanesulfonic acid)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

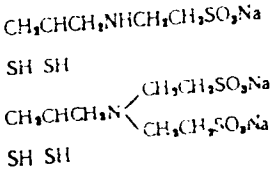
S/073/62/028/007/001/004
E075/E436

AUTHORS: Vasil'yeva, Ye.V., Nedopekin, T.K., Petrun'kin, V.Ye.

TITLE: Investigation of the complex-forming capacity of mercapto-compounds. Part I. Comparative evaluation of the strength of complex compounds of dithiols with the cations of mercury, lead, cadmium and zinc

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v.28, no.7, 1962, 773-778

TEXT: The method of investigation was to decompose a dithizone complex of a metal with an aqueous dithiol. The extent of the decomposition was taken as a measure of the strength of the dithiol-metal complex. Thiols forming a stable complex with one of the metals form also stable complexes with the other metals. The most stable complexes (95% of dithizone complex decomposed) were formed by



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Investigation of the complex- ...

In general, the most stable complexes are formed by sodium dimercaptoalkylsulphonates containing sulpho-sulphur or amine-nitrogen. The least stable compounds are formed by dimercaptoderivatives of malonic acid, aromatic thiols and heterocyclic thiols containing two non-aligned SH groups and monothiols. Transfer of SH in thiols of the fatty series from 2,3 to 1,3 position does not increase the strength of the complex. Soviet produced thiol $CH_2CHCH_2SO_3Na \cdot H_2O$

SH SH

forms complexes with Zn and Hg having similar stability to those formed by non-Soviet product BAL (2,3 dimercaptopropanol). The latter decomposes 75% of the dithizone complex. Many of the thiols form much stronger complexes with Hg than ethylenediaminetetraacetic acid. With Pb, Zn and Cd the acid gives complexes having similar stability to those formed by the best thiols. The dithizone method of determining complex stability is recommended for general usage. There are 4 tables.

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S/073/62/028/007/001/004
E075/E436

Investigation of the complex- ...

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy sanitarno-khimicheskiy institut (Ukrainian Scientific Research Sanitary Chemistry Institute)

SUBMITTED: May 18, 1961

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

DVERNITSKIY, V.P.; PETRUN'KIN, V.Ye.

Production of 2,3-dithioglycerin without purifying by distillation. Med. prom. 15 no.12:41-43 D '61. (MIRA 15:2)

1. Ukrainskiy nauchno-issledovatel'skiy sanitarno-khimicheskiy institut.

(GLYCEROL) (MERCAPTO COMPOUNDS)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUN'KIN, V.Ye.

Synthesis and properties of dimercapto derivatives of alkanesulfonic acids. Part 1. Synthesis of sodium 2, 3-dimercaptopropanesulfonate (Unithiol) and sodium 2-mercaptoethanesulfonate. Ukr. khim. zhur. 22 no.5:603-607 '56. (MLRA 10:6)

1. Ukrainskiy nauchno-issledovatel'skiy sanitarno-khimicheskiy institut.

(Sulfonic acids) (Mercapto compounds)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

PETRUN'KIN, V.Ye.

Synthesis and properties of dimercapto derivatives of alkanesulfonic acids. Part 2. Cuclic thioarsenates from sodium 2, 3-dimercaptopropanesulfonate (Unithiol). Ukr. khim. shur. 22 no.5:608-611 '56. (MLRA 10:6)

1. Ukrainskiy nauchno-issledovatel'skiy sanitarno-khimicheskiy institut.
(Sulfonic acids) (Thioarsinous acids)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0

LYSENKO, N.M.; PETRUN'KIN, V.Ye.

Synthesis and properties of dimercapto derivatives of alkanesulfonic acids. Part 6: 2(B,B'-dimercaptoisopropylmercapto) ethane sodium sulfonate and 3(B,B'-dimercaptoisopropylmercapto) propane sodium sulfonate. Zhur.ob.khim. 31 no.7:2252-2255 Jl '61. (MIRA 14:7)

(Sulfonic acid) (Mercapto compounds)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240620015-0"